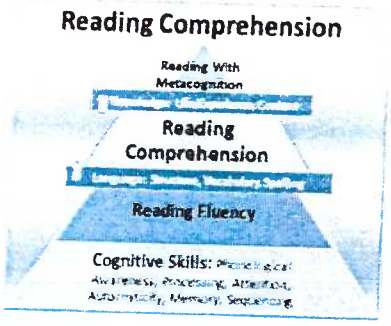


Explicitly Teaching Inferences

1. Based on the facts on page ____, what conclusion can you make?
2. Why is it important that _____?
3 After looking at the picture on page ___, what can you know about a _____?

Explicitly Teaching Critical Literacy

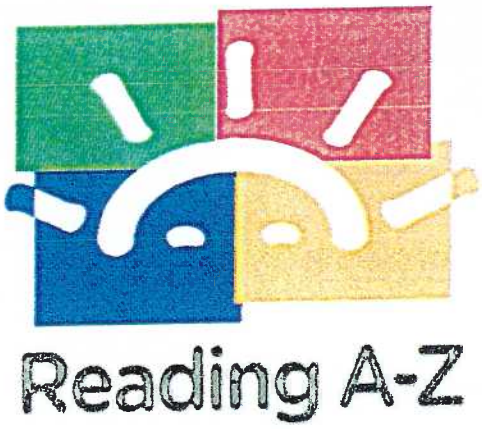
1. What was the author's purpose in writing this story?
2. Where can you find the author's purpose? (It is always the main idea in the first paragraph on the first page)
3. Why is writing about this topic important?
4. Was the story difficult to understand? Why or why not?

Explicitly Teaching Creative Literacy

1. Can you tell me about a time when _____?
2. Can you tell me about a _____ you have seen?
3. If you were going to write this story how would you chose to end it? Why would you chose that ending?
4. What other information could the author have given the audience? Why would that information be important to know?

Teaching Visual Literacy Skills

Visual literacy is the ability to evaluate, apply, or create conceptual visual representations. Skills include the evaluation of advantages and disadvantages of visual representations, to improve shortcomings, to use them to create and communicate knowledge, or to devise new ways of representing insights.



FLUENCY STANDARDS TABLE

Recommended reading rates, or words read per minute, for grades one through six were examined from three separate research studies. The findings of these studies were used by Reading A-Z to establish an average early and end reading rate per grade level. Your student's reading rates can be compared to these average rates as a way to determine whether they are making progress in their ability to recognize words automatically. The comparison can also be used to determine whether a student's reading rate is near the grade level standard. For example, a beginning third grade student with a reading rate of 110 WPM can be considered on level. However, a third grade student with a reading rate of 60 WPM is recognizing words at a rate similar to a first grader and will likely need additional instructional support to increase his or her reading rate.

READING A-Z RECOMMENDATIONS
WORDS PER MINUTE (WPM)

GRADE	BEGINNING RATE	MID-YEAR RATE	END RATE
1	50	60	70
2	70	80	100
3	100	120	130
4	130	135	140
5	140	150	160
6	160	165	170

Grade 5
Persuasive Letter or Composition

Definition of a Persuasive Composition

In persuasive compositions, writers state a clear position in support of a proposal, support a position with relevant evidence, follow a simple organizational pattern and address reader concerns.

In this guide, the persuasive composition will be a **proposal**.

Importance

Persuading is part of everyday life. Persuading others of the worth of a proposal, while more specific, may also be seen in such forms as a solution to a problem or a proposed change to a policy or rule.

In writing proposals, students need to define issues carefully, present their proposals convincingly, and address reader concerns and possible counter-proposals. Proposals often contain an appeal to the reader to be part of the solution.

Features of a Proposal

When evaluating student-written proposals, consider the following components:

Analysis of an Issue

The writer provides sufficient information for the reader to understand the issue and, if appropriate, the consequences of failing to deal with the issue as suggested. In the analysis, the writer may discuss the seriousness of the issue, how it developed, how the problem would worsen if it were not resolved in the manner the writer proposes, and may include examples for one or more of these elements.

Making a Proposal

In a logical manner, the writer proposes one or more solutions and provides steps for carrying them out. The writer may focus on the practicality or feasibility of the proposal and the process involved to implement the writer's suggestions. The writer may also discuss objections to other less effective proposals.

Convincing the Reader

The writer shows awareness of the reader and addresses potential concerns. The writer may appeal to the audience, acknowledge reader concerns, discuss pros and cons of alternative proposals, or refute counter-arguments.

Prior Instruction for Writing a Proposal

The prior instruction necessary for students to meet the grade level standards in writing requires the implementation of a balanced writing program. This includes daily whole-class demonstrations and instruction (writing aloud, shared writing, interactive writing), frequent individual instruction (guided writing), and daily opportunities to write independently.

The following are suggestions for a systematic approach to teaching persuasive writing. Each section should be taught in a series of lessons in order to reinforce each aspect of the persuasive writing domain.

Developing the Introductory Paragraph

Analyze the Issue

Discuss the definition of an arguable issue, an issue upon which reasonable people may disagree. As a class, brainstorm current issues that might exist in a school setting, such as mandatory summer school, the quality of cafeteria food, or the rough play of some students. Choose one issue from the brainstormed list and:

- define the seriousness of the issue
- consider the issue's history and/or development
- consider the current status of the problem
- list examples of the issue or problem on a chart
- discuss how the problem would magnify or worsen if not resolved

Make a Proposal

After analyzing the issue, the class brainstorms possible solutions and possible steps to carry them out (the proposal). As a class, students write an introduction which clearly defines the issue and describes a proposal. The class also provides reasons which support the proposal.

Design and Analyze Proposals as a Whole Class

From the original brainstormed list (to which ideas may be added daily), choose another issue, guide the class through an analysis of that issue and, as a class, offer a proposal for that issue following the steps outlined above. Students practice writing introductory paragraphs explaining their proposals.

Design and Analyze Proposals in Small Groups

Divide the class into groups. The class chooses an issue to analyze, then small groups apply the process of analyzing the issue and writing an introductory paragraph.

Analyze a Proposal Independently

Students independently analyze an issue and offer a proposal as outlined above, then proceed to develop their proposals as described below.

Developing Supporting Paragraphs

Convince the Reader

Using an issue from the whole-class brainstorm, students suggest possible counter-arguments for each proposal, considering one argument at a time. The teacher directs students in refuting these counter-arguments, reminding them to:

- appeal to shared interests
- acknowledge the reader's experience and expertise
- discuss pros and cons of alternative ideas
- address potential doubts to these suggestions

Organize an Argument

The **Prewriting Graphic Organizer** in the Part I: Prewriting section below (blackline master included in Grade 5 Appendix) provides a scaffold upon which students may build their essays. The teacher models the organizational pattern and revisits the pattern with each lesson.

Present Counter-Arguments

Students add counter-arguments to previously written paragraphs on other issues which have been considered. Students are guided through this process several times with different issues. The teacher may wish to divide the class into groups which will work together through this process, adding new or revised information to previously written paragraphs. Students will independently use the process to refute potential arguments against their proposals.

Developing the Concluding Paragraph

Conclude Essay Effectively

Conclusions reinforce positions and evidence by summarizing the points made in the proposal and/or reasserting an appeal to the audience. The teacher directs the class through the process of writing an effective conclusion to one of the brainstormed issues, one for which students have formulated a proposal and argued the case. Students may practice writing conclusions for their own proposals on other issues.

Directions for the Writing Assessment Persuasive Letter or Composition

To the Teacher

You are encouraged to treat this prompt as a series of class lessons, even though the student work produced may be used to determine if the student has met state standards. These directions provide guidelines, but please use your own discretion in walking students through the prompt. If you plan to use the student writing to determine whether the student has met, in part, the grade level standards in writing, then you should conduct the following as consistently as possible throughout the school.

Once prior instruction has taken place, the three-part assessment process begins. The number of class days involved will vary according to individual teaching situations and preferences. However, if this assessment is being used across the school site or district at this grade level, this process should also be as consistent as possible.

General Guidelines for Assessing Students

In order to maintain consistency, the following guidelines may be useful:

- Use the same prewriting activities for each trial.
- Follow the directions at each step.
- Do not provide answers to student questions that would directly meet the standards.
- Students may use spelling resources which are regularly available in the classroom (wall charts, word lists, dictionaries, thesaurus). Students may **not** use computers or electronic spelling aids.
- Do not allow peer or teacher assistance during the actual writing process.
- Do not allow papers to be taken home during the assessment process.

The following may be adjusted to meet student needs:

- Rephrase the directions for better student understanding.
- Allow students access to their primary language if that will assist in understanding the task.

Materials
Materials included:

- Teacher Instructions
- Reading Selection (News Article)
- Prewriting Graphic Organizer
- Student Writing Prompt
- Student Checklist
- Teacher Scoring Guide

To be provided by the teacher and/or student:

- Writing paper
- Writing utensils
- Dictionaries, thesaurus, and other resources regularly used in the classroom

Time Limits
Three sessions are required for the assessment portion of this lesson. These sessions may take place over three days or less, depending on site and teaching considerations. Parts I and II should last no more than 60 minutes each. Part III should last no more than 120 minutes.

Introducing the Assessment

Part I: Prewriting (60 minutes)

The purpose of the prewriting activity is to connect the activities included in the prior instruction component to the actual writing students will do. This portion of the assessment allows students the opportunity to organize their ideas into well-written persuasive letters or compositions.

Read the News Article
While students follow silently, the teacher reads aloud the attached news article "Opinions Differ in San Miguel Over Student Uniforms: School Board Seeks Proposals" and Student Writing Prompt (blackline masters included in Grade 5 Appendix). In small groups, students discuss the issue and what they believe the school policy should be. The teacher presents and reviews the Prewriting Graphic Organizer below (blackline master included in Grade 5 Appendix). Students individually use the graphic organizer to outline proposals regarding the school uniform issue, list reasons in support of their suggestions, provide supportive explanations for their proposals, and defend against possible concerns.

Grade 5 Prewriting Graphic Organizer
Persuasive Letter or Composition

Introductory Paragraph • State and analyze the issue • Make a proposal • Briefly state reasons for the proposal	
Reason #1 • Explain a reason for the proposal • Address concerns (counter-arguments)	
Reason #2 • Explain a reason for the proposal • Address concerns (counter-arguments)	
Reason #3 • Explain a reason for the proposal • Address concerns (counter-arguments)	
Conclusion • Restate proposal in different way • Provide a different reason or angle • Restate an important idea • Emphasize details outlined above	

Part II: Writing (60 minutes)

When students are ready to begin their first drafts of the writing prompt, the following steps should be followed:

- Pass out collected papers from Part I.
- Review prewriting ideas as necessary and/or desired.
- Review the writing prompt.
- Explain and clarify the student checklist
- Students write first drafts individually—no outside help is allowed at this point.
- If time allows, students may begin editing and revising their own drafts using dictionaries, thesaurus, other regular classroom resources, and the checklist as guides.
- Collect all student papers at the end of Part II.

Grade 5 Writing Prompt
Persuasive Letter or Composition

Writing Situation:

Some schools now require their students to wear uniforms. Your school has formed a committee of teachers, parents, and students to develop a proposal regarding school uniforms. Read the article about the proposal for school uniforms in the San Miguel School District, and think about the issues they are dealing with.

Writing Directions:

Write a proposal about school uniforms for your school. Convince the committee that yours is a good proposal for them to consider. Be sure to think about all the possible arguments against your proposal. Include information from the article and your own experience to help explain your ideas.

Grade 5 Student Checklist
Persuasive Letter or Composition

Blackline master is in Grade 5 Appendix

Please check the draft of the essay for the following items:

Writing Applications Persuasive Letter or Composition	Yes	No	Comments
• I have clearly stated my proposal • I have provided good reasons for the reader to consider my proposal • I have organized my proposal appropriately • I have discussed concerns the reader may have against my proposal			
Writing Strategies			
• I have provided important details about my proposal • I have linked paragraphs to each other • I have written a conclusion • I have edited and revised my proposal with the help of a thesaurus, dictionary, or other resource			
Writing Conventions			
• I have correctly used prepositional phrases, appositives, and independent and dependent clauses • I have used transitions and conjunctions to elaborate on my ideas • I have used correct capitalization • I have used correct spelling • I have used correct punctuation			

Part III: Editing/Revision and Final Draft (120 minutes)

This final portion of the assessment allows students the time and opportunity to improve their drafts before writing the final pieces. Final drafts will be assessed according to the content standards criteria presented on the scoring guide. This same criteria is outlined on the student checklist which will be used during this session to focus attention on areas in need of improvement. The steps for completing this portion are:

- Pass out collected papers from Part II.
- Students edit and revise their first drafts using allowable classroom resources and checklist.
- If desired, peer response sessions may also be conducted using this checklist. In that case, clean copies will need to be supplied for each student.
- Students write final drafts legibly using dark ink.
- When final drafts are complete, students assemble all materials used in the three-part process, stapling final drafts on top, and submit to the teacher.

ERB
LIGHTING THE PATHWAYS TO LEARNING

WrAP Writing Assessment Portal Program

6+1 Trait® Writing Grades 3-8

Name_____

Date_____

T_1 T_2 T_3

OACS
Osceola Adventist Christian School

Organization		Support	
Fluency		Word Choice	
Mechanics		Presentation	
Overall Development		Mode of Cumulative Record	

WRAP Score OACS Score	Organization	Support	Sentence Fluency	Word Choice	Mechanics	Presentation	Overall Development
6 Paper 4	Plan is developed and well followed including the topic, audience, and purpose and an appropriate plan-type. Carefully but subtly organized from beginning to end. Logical order (well sequenced*); Elegant flow of ideas; Provides closure	Supporting details are rich, interesting, and informative throughout; fully developed; Details are relevant and appropriate for the focus	Sentence structures enhance style and effect; Virtually no errors in structure or usage ; Successfully uses more sophisticated, varied sentence patterns	Rich, effective vocabulary throughout; Vivid language; May use figurative language and imagery	Very few or no mechanical errors relative to length or complexity	Presentation shows a pride in the quality of work, all letters are neatly on the line and formed correctly with even spacing, correct slant, and the written presentation is attractive and helps readers understand and remember the information.	Fluent, richly developed; Clear awareness of audience and purpose ; Distinctive, engaging voice; Original, insightful, or imaginative
5 Paper 3	Organized from beginning to end including a plan that is developed with topic, audience, purpose, and plan-type; Logical order (sequenced*); Subtle transitions; Provides closure	Details are strong and varied throughout; Details are relevant and appropriate for the focus	Sentence structures are appropriate to style and effect; Few errors in structure or usage; Moderately successful in using more; sophisticated sentence patterns	Effective vocabulary; Generally successful in using rich language	Few mechanical errors relative to length or complexity	Presentation shows basic neatness with no more than two letters formed and spaced incorrectly, and overall design of the written presentation helps readers understand the information.	Fluent, fully developed; Clear awareness of audience and purpose; Evidence of voice, compositional risks attempted; Cohesive
4 Paper 3	Topic, audience, purpose and plan-type is developed by may not be followed causing minor lapses in order or structure (some breaks in sequencing*); Meaning is subordinate to organizational devices; Contrived transitions; Provides closure	Details are adequate to support the focus; Details are generally relevant to the focus	Some sentence variety; Generally correct structure and usage; Attempts to use more sophisticated sentence patterns	Acceptable vocabulary; Attempts to use rich language; Misuse of bigger grade-level appropriate vocabulary words	Some mechanical errors that do not interfere with communication; Limited text, but mechanically correct	Presentation is readable and basically neat. There are no more than four words spaced incorrectly per line, or four letters per line written incorrectly.	Moderately fluent, adequately developed; Awareness of audience and purpose; Ideas developed but somewhat limited in depth

ERB
LIGHTING THE PATHWAYS TO LEARNING

WrAP Writing Assessment Portal Program

6+1 Trait® Writing
Grades 3-8

Name_____

Date_____

T_1 T_2 T_3

OACS
Osceola Adventist Christian School

Page 2

WRAP Score OACS Score	Organization	Support	Sentence Fluency	Word Choice	Mechanics	Presentation	Overall Development
3 Paper 2	Lack of planning evident; Poor transitions; andom sequencing*; Attempts closure; Shift in focus	Details lack elaboration; Insufficient relevant details; Important details are omitted	Little sentence variety; Errors in structure or usage interfere with meaning; Over-reliance on simple or repetitive constructions; Chaining; Noticeable errors in usage	Simplistic vocabulary with acceptable but limited word choice; Some errors in word choice	Some mechanical errors that do interfere with communication; Errors are disproportionate to the length or complexity of the piece (errors cause major problems for readers)	60-75% of words, letters, slant, or formation are correct. Presentation is readable, but not particularly neat or of good quality.	Somewhat developed; Some awareness of audience and purpose; Repetitive or too general
2 Paper 1	Lack of planning evident; Thought patterns are difficult to follow; Ideas are not clear or sequenced*; Resembles free-writing, rambling; Continual shifts in focus	Supporting details are listed; Repetitious details; Too few details	No sentence variety; Serious errors in structure or usage; Too brief to demonstrate variety	Simplistic vocabulary with inappropriate and/or incorrect word choice	Noticeable mechanical errors that interfere with communication; Errors are disproportionate to the length or complexity of the piece (errors cause major problems for readers)	About half of the presentation has distracting errors in letter formation, slant, or spacing. The quality of the presentation detracts significantly from readability.	Poorly developed; Poor awareness of audience; or purpose; Ideas and details are not clear
1 Paper 1	Little or no planning; So short or muddled that it lacks organization or focus	Virtually no details; Irrelevant details	Lack of sentence sense; Riddled with errors at the sentence level; Riddled with errors in usage; Too brief to evaluate	Extremely limited vocabulary; Riddled with errors in word choice; Too brief to evaluate	Mechanical errors that seriously interfere with communication; Too brief to evaluate	Letter formation, spacing, slant is imbalanced, cluttered, and shows a lack of pride in the quality of work. The presentation quality interferes with readability.	Not developed; Restates topic; No awareness of audience or purpose; Inappropriate response; Too brief to show development

Assessment for Common Core Mathematics Standards Grade 5

Summary Sheet

Name _____ T_1 T_2 T_3

School _____ Year _____

Teacher _____

0 1 2 3 4 _____ % Number Sense

0 1 2 3 4 _____ % Algebraic Functions & Operations

0 1 2 3 4 _____ % Measurement & Geometry

0 1 2 3 4 _____ % Data, Statistics and Probability

Assessment for Common Core Mathematics Standards Grade 5

Introduction: Summary of Goals

GRADE FIVE

By the end of grade five, students increase their facility with the four basic arithmetic operations applied to fractions, decimals, and positive and negative numbers. They know and use common measuring units to determine length and area and know and use formulas to determine the volume of simple geometric figures. Students know the concept of angle measurement and use a protractor and compass to solve problems. They use grids, tables, graphs, and charts to record and analyze data.

Assessment for Common Core Mathematics Standards Grade 5

Number Sense

NS 1.1

a. 1. Round 4.123 to the nearest hundreth. _____

2. Round 13.082 to the nearest tenth. _____

_____

b. 1. Round off 6,296,942 to nearest million: _____

2. Round off 6,296,942 to nearest hundred thousand: _____

---

a. 1. Write each value as a decimal:

i. 17/1000 = _____

ii. 3/20 = _____

iii. 6% = _____

2. Write each value as a fraction:

i. 0.03 = _____

ii. 1.111 = _____

iii. 8% = _____

iv. 21 = _____

Assessment for Common Core Mathematics Standards Grade 5

[CONTINUED]

NS 1.2

a. 3. Write each value as a percent:

i. 0.07 = _____

ii. 0.165 = _____

iii. 17/20 = _____

iv. 1/8 = _____

b. 1. What is 30% of 20?

2. What is 25% of 48?

3. What is 150% of 30?

Assessment for Common Core Mathematics Standards Grade 5

NS 1.3 Fill in the blank with a whole number:

$5^4 =$ _____

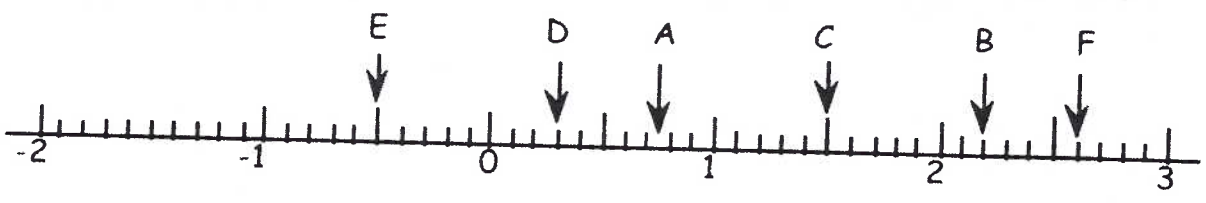
NS 1.4 Write these numbers as the product of their prime factors, using exponents to show multiples of a factor if needed:

a. 48 _____ b. 36 _____

NS 1.5 Write the letter for each number that represents the quantity on the number line.

2.2 _____ 0.3 _____ -0.5 _____

$2\frac{6}{10}$ _____ $\frac{75}{100}$ _____ 1.5 _____



Assessment for Common Core Mathematics Standards Grade 5

NS 2.1 Write the answers:

a. 1. $3.20 \times 0.05 =$ _____ 3. $18 - 0.342 =$ _____

2. $20 \div 0.05 =$ _____ 4. $8.1 + 0.054 + 7 =$ _____

b. 1. $-4 - 3 =$ _____ 4. $-4 + (-3) =$ _____

2. $-7 + 3 =$ _____ 5. $-2 + (-7) =$ _____

3. $-3 + 7 =$ _____ 6. $-2 - (-7) =$ _____

Assessment for Common Core Mathematics Standards Grade 5

NS 2.2 Write the answers:

a. $45\overline{)32{,}694}$ =

b. $504 \div 2.1$ =

c. $1{,}324 \div 20$ =

NS 2.3 Write the answers:

a. $\frac{3}{4} + \frac{2}{3}$ =

b. $2 - \frac{1}{3}$ =

c. $3\frac{4}{5} + 2\frac{7}{10}$ =

d. $3\frac{5}{12} - 1\frac{3}{18}$ =

Assessment for Common Core Mathematics Standards Grade 5

NS 2.4

Write the answers:

a. $\frac{3}{4} \times \frac{8}{9} =$ _____

b. $\frac{2}{5} \div \frac{1}{2} =$ _____

NS 2.5

a. A ribbon is 40 inches long. We want to cut the ribbon into pieces. Each piece will be $\frac{2}{3}$ of an inch. How many pieces will we have?

b. There are 20 bottles in a box. Each bottle weighs $1\frac{3}{4}$ pounds. How many pounds do all the bottles weigh together?

c. Richard has a large pizza. He gives away $\frac{1}{3}$ of it, then he gives away $\frac{1}{2}$ of what he has. How much pizza does Richard have left?

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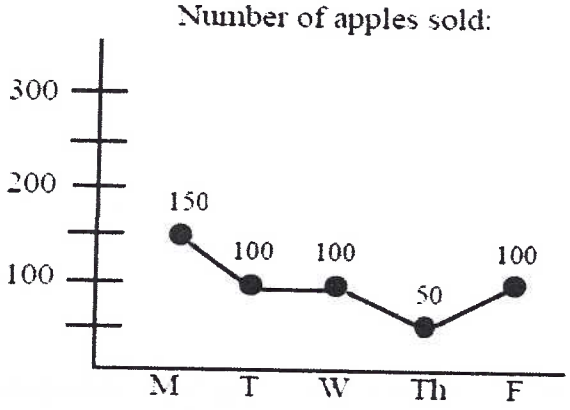
Assessment for Common Core Mathematics Standards Grade 5

Algebra and Functions

AF 1.1



a. How many apples were sold all together this week? _____

b. How many more apples were sold on Monday than on Friday? _____

AF 1.2

a. A number y is five times greater than two added to a number x. Write an expression for y in terms of x. If x = 3, what is y?

b. y = 3x + 2, what is y if x is 7?

Assessment for Common Core Mathematics Standards Grade 5

AF 1.3

$3(4y - 2) =$

A. $7y - 2$

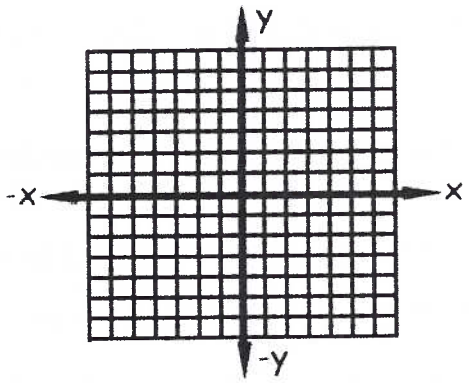
B. $7y + 6$

C. $12y - 5$

D. $12y - 6$

AF 1.4

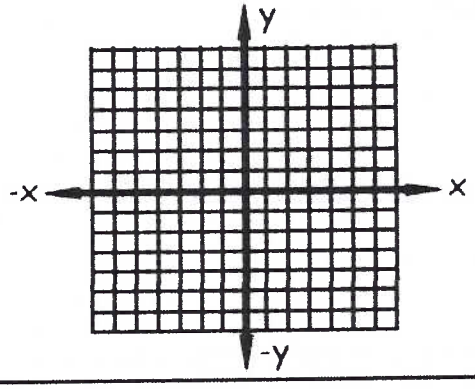
Plot these points: a. (4, 3) b. (-3, 2) c. (-2, -5) d. (5, -1)



AF 1.5

Every car is charged $3 to park. Write the equation for the total charges y if there are x number of cars. Complete the table and plot the points from the table onto the graph.

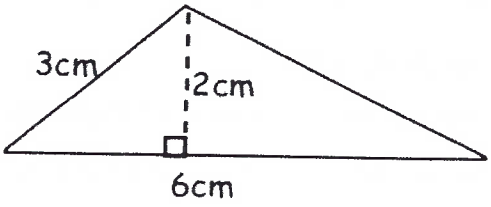
x	y
1	
2	



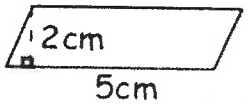
Assessment for Common Core Mathematics Standards Grade 5

Measurement and Geometry

MG 1.1 a. What is the area of this triangle? _____



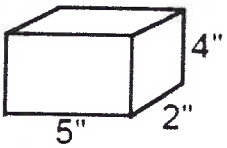
b. What is the area of this parallelogram? _____



MG 1.2 What is the surface area of a cube whose edges each measure 3 inches?

_____

MG 1.3 What is the volume of this block? _____



Assessment for Common Core Mathematics Standards Grade 5

MG 1.4 Identify the statements below as relating to length, area or volume:

a. The perimeter of a triangle _____

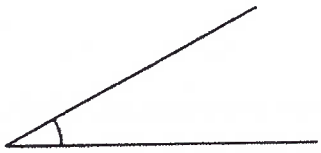
b. The amount of water a barrel will hold _____

c. The amount of astroturf to cover a football field _____

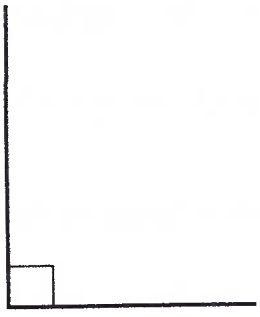
d. The number of bricks to pave a path _____

MG 2.1 Using a protractor, determine the number of degrees in each angle

a. _____



b. _____



c. _____

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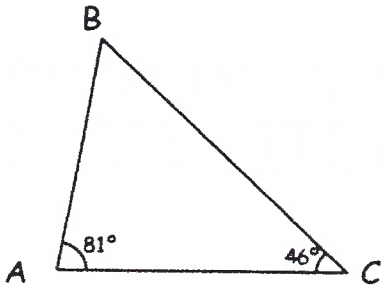
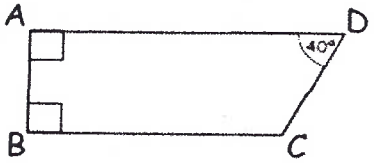
Assessment for Common Core Mathematics Standards Grade 5

MG 2.2

Examine the figures and answer the questions:





a. m ∠ B = _____

b. How many degrees in angle BCD? _____

MG 2.3

Draw a cube.

Assessment for Common Core Mathematics Standards Grade 5

Statistics

S 1.1 Here are Jason's scores on science tests this year.

test	1	2	3	4	5	6	7	8	9	10	11
score	85	91	48	98	99	91	90	84	91	87	80

a. What is his median score? _____

b. What is the mode for all these scores? _____

c. What is the mean of Jason's first five scores? _____

S 1.2 For Jason's marks in science (see the question above), create a histogram for these ranges of scores: 0-85, 86-91, 92-100

Assessment for Common Core Mathematics Standards Grade 5

S 1.3

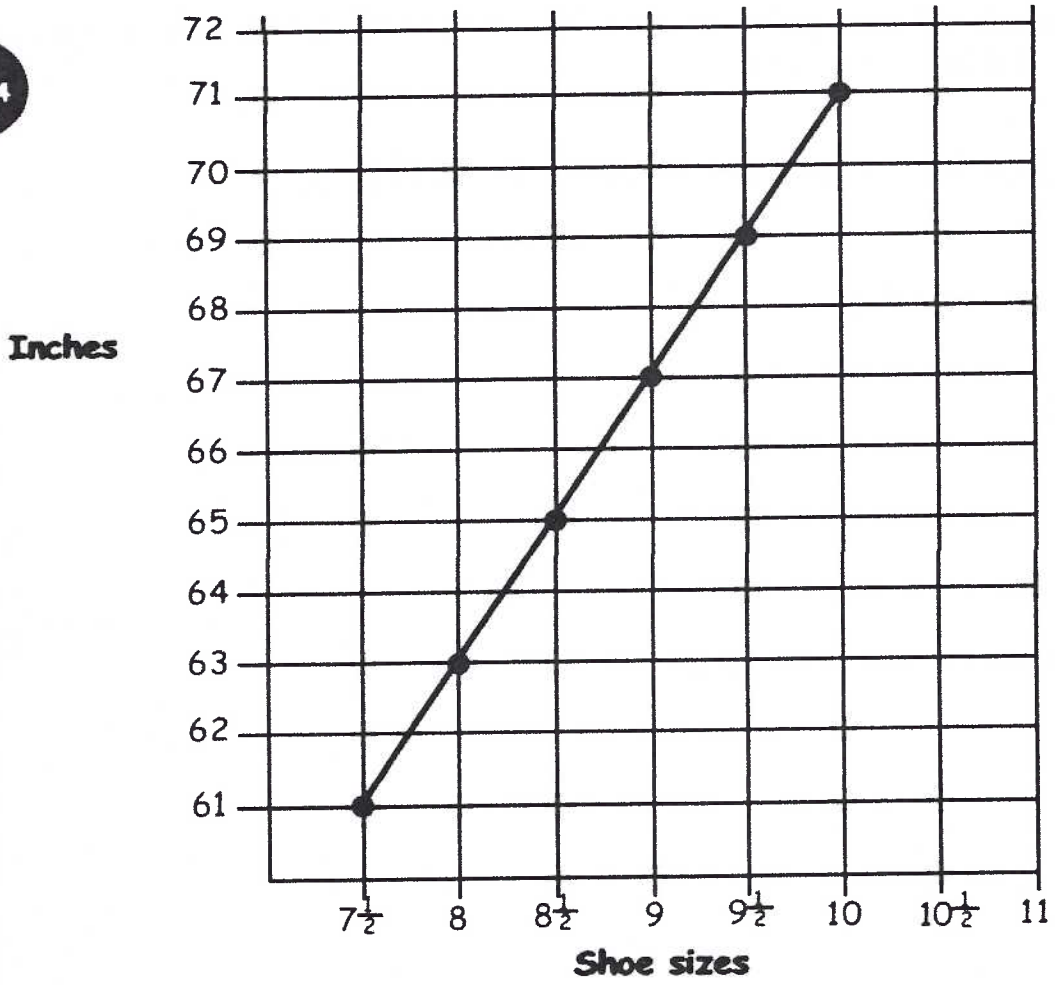
In Ms. Jones' class, 21 of 30 children passed the math test. In Ms. Tyler's class, 18 of 25 children passed the math test.

a. In which class did a higher percentage of students pass?

b. By how many more percentage points?

Assessment for Common Core Mathematics Standards Grade 5

S 1.4



This graph shows the relationship between height and shoe size. According to the data depicted above, what shoe size does a man 71 inches tall wear?

_____

S 1.5

Referring to the question above, which comes first in the ordered pairs, height or shoe size?

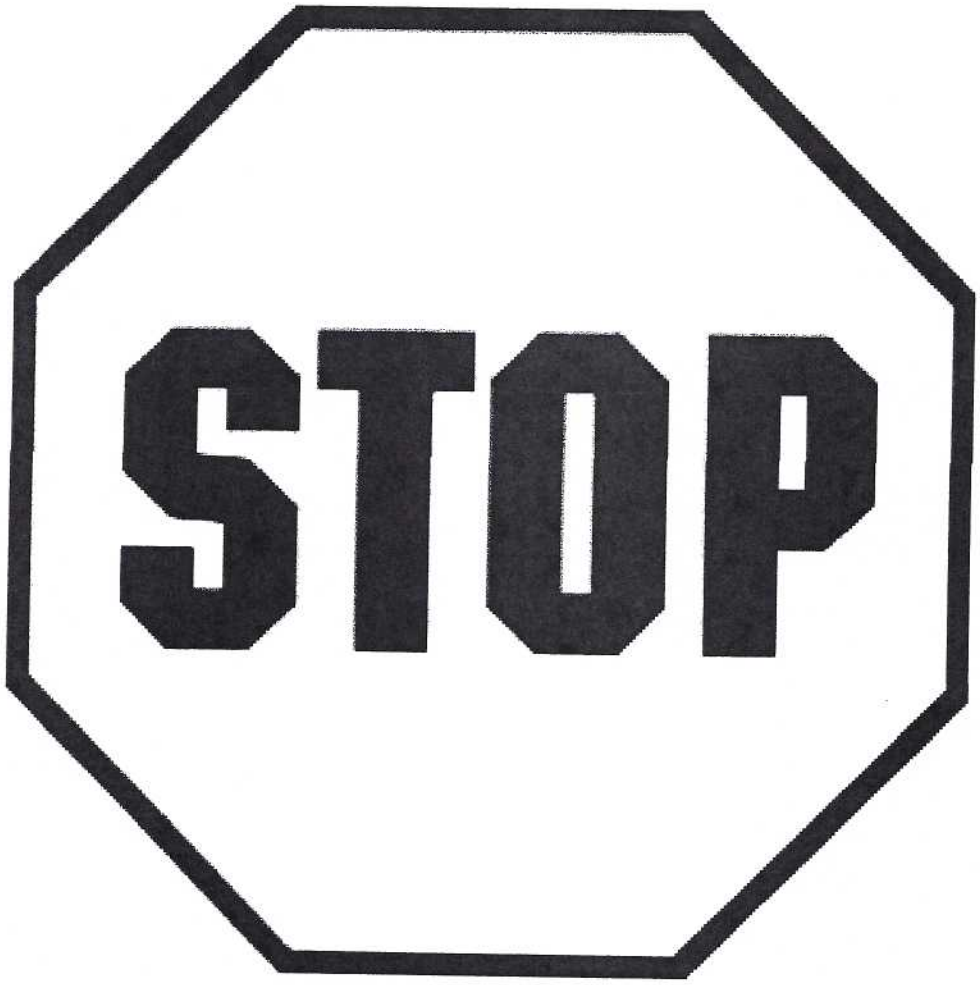
_____

Assessment for Common Core Mathematics Standards Grade 5

End of Assessment

GRADE FIVE

S1.2



Answer Key For The California Mathematics Standards Grade 5

Introduction: Summary of Goals

GRADE FIVE

By the end of grade five, students increase their facility with the four basic arithmetic operations applied to fractions, decimals, and positive and negative numbers. They know and use common measuring units to determine length and area and know and use formulas to determine the volume of simple geometric figures. Students know the concept of angle measurement and use a protractor and compass to solve problems. They use grids, tables, graphs, and charts to record and analyze data.

Answer Key For The California Mathematics Standards
Grade 5

Number Sense 1.0: Students compute with very large and very small numbers, positive integers, decimals, and fractions and understand the relationship between decimals, fractions, and percents. They understand the relative magnitudes of numbers.

NS 1.1: Students estimate, round, and manipulate very large (e.g., millions) and very small (e.g., thousandths) numbers.

a. 1. Round 4.123 to the nearest hundreth. 4.12

4.12[3]. Since 3 < 5 we leave 2 and drop the rest.

2. Round 13.082 to the nearest tenth. 13.1

13.0[8]2. Since 8 > 5 we round 0 up to 1.

b. 1. Round off 6,296,942 to nearest million: 6,000,000

6,[2]96,942. Since 2 < 5 we leave 6 and keep 0s as place holders.

2. Round off 6,296,942 to nearest hundred thousand: 6,300,000

6,2[9]6,942. Since 9 > 5 we round 2 up to 3 and use 0s as place holders.

Los Angeles County Office of Education: *Mathematics*
National Center to Improve the Tools of Education

Answer Key For The California Mathematics Standards
Grade 5

Number Sense 1.0: Students compute with very large and very small numbers, positive integers, decimals, and fractions and understand the relationship between decimals, fractions, and percents. They understand the relative magnitudes of numbers.

NS 1.2: Students interpret percents as a part of a hundred; find decimal and percent equivalents for common fractions and explain why they represent the same value; compute a given percent of a whole number.

a. 1. Write each value as a decimal:

i. 17/1000 = $\frac{17}{1000}$ = .017

ii. 3/20 = $\frac{3}{20}$ = 0.15 Since $20\overline{)3.00}$ (.15; 20; 100; 100)

iii. 6% = 0.06

2. Write each value as a fraction:

i. 0.03 = $\frac{3}{100}$

ii. 1.111 = $1\frac{111}{1000}$

iii. 8% = .08 = $\frac{8}{100}$ = $\frac{2}{25}$ Since in $\frac{8}{100}$ numerator and denominator both divisible by 4.

iv. 21 = $\frac{21}{1}$

Answer Key For The California Mathematics Standards Grade 5

Number Sense 1.0: Students compute with very large and very small numbers, positive integers, decimals, and fractions and understand the relationship between decimals, fractions, and percents. They understand the relative magnitudes of numbers.

NS 1.2: Students interpret percents as a part of a hundred; find decimal and percent equivalents for common fractions and explain why they represent the same value; compute a given percent of a whole number.

[CONTINUED]

a. 3. Write each value as a percent:

i. 0.07 = 7%

ii. 0.165 = 16.5%

iii. 17/20 = .85 = 85%

Since $20\overline{)17.00}$ = .85

160

100

100

0

iv. 1/8 = .125 = 12.5%

Since $8\overline{)1.000}$ = 125

8

20

16

40

40

0

Answer Key For The California Mathematics Standards
Grade 5

Number Sense 1.0: Students compute with very large and very small numbers, positive integers, decimals, and fractions and understand the relationship between decimals, fractions, and percents. They understand the relative magnitudes of numbers.

NS 1.2: Students interpret percents as a part of a hundred; find decimal and percent equivalents for common fractions and explain why they represent the same value; compute a given percent of a whole number.

[CONTINUED]

b. 1. What is 30% of 20? **6**

$$\frac{30}{100} = \frac{x}{20}$$
$$600 = 100x$$
$$6 = x$$

2. What is 25% of 48? **12**

$$\frac{25}{100} = \frac{x}{48}$$
$$1{,}200 = 100x$$
$$12 = x$$

3. What is 150% of 30? **45**

$$\frac{150}{100} = \frac{x}{30}$$
$$4{,}500 = 100x$$
$$45 = x$$

Answer Key For The California Mathematics Standards
Grade 5

Number Sense 1.0: Students compute with very large and very small numbers, positive integers, decimals, and fractions and understand the relationship between decimals, fractions, and percents. They understand the relative magnitudes of numbers.

NS 1.3: Students understand and compute positive integer powers of non-negative integers; compute examples as repeated multiplication.

Fill in the blank with a whole number:

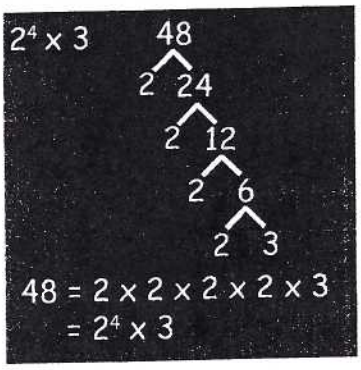
$5^4 =$ $5 \times 5 \times 5 \times 5 = 625$

Number Sense 1.0: Students compute with very large and very small numbers, positive integers, decimals, and fractions and understand the relationship between decimals, fractions, and percents. They understand the relative magnitudes of numbers.

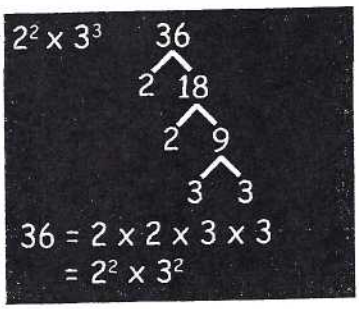
NS 1.4: Students determine the prime factors of all numbers through 50 and write the numbers as the product of their prime factors by using exponents to show multiples of a factor (e.g., $24 = 2 \times 2 \times 2 \times 3 = 2^3 \times 3$).

Write these numbers as the product of their prime factors, using exponents to show multiples of a factor if needed:

a. $48 = 2^4 \times 3$



b. $36 = 2^2 \times 3^3$



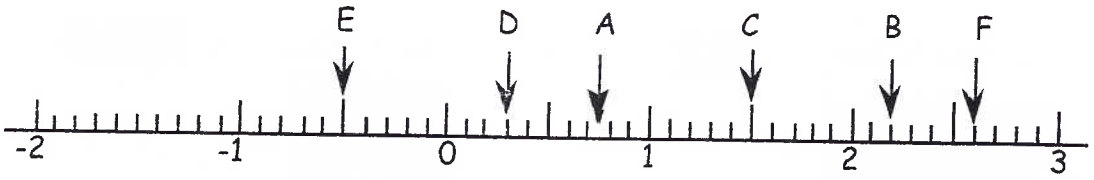
Answer Key For The California Mathematics Standards
Grade 5

Number Sense 1.0: Students compute with very large and very small numbers, positive integers, decimals, and fractions and understand the relationship between decimals, fractions, and percents. They understand the relative magnitudes of numbers.

NS 1.5: Students identify and represent on a number line decimals, fractions, mixed numbers, and positive and negative integers.

Write the letter for each number that represents the quantity on the number line.

2.2	B	0.3	D	-0.5	E
$2\frac{6}{10}$	F	$\frac{75}{100}$	A	1.5	C



Answer Key For The California Mathematics Standards Grade 5

Number Sense 2.0: Students perform calculations and solve problems involving addition, subtraction, and simple multiplication and division of fractions and decimals.

NS 2.1: Students add, subtract, multiply, and divide with decimals; add with negative integers; subtract positive integers from negative integers; and verify the reasonableness of the results.

Write the answers:

a. 1. 3.20 x 0.05 = **0.16**

$$\begin{array}{r} 3.20 \\ \times 0.05 \\ \hline .1600 \end{array}$$

2. 20 ÷ 0.05 = **400**

$$5\overline{)2000.}\quad 400.$$

3. 18 - 0.342 = **17.658**

4. 8.1 + 0.054 + 7 = **15.154**

$$\begin{array}{r} 8.100 \\ +0.054 \\ 7.000 \\ \hline 15.154 \end{array}$$

b. 1. -4 - 3 = **-7**

2. -7 + 3 = **-4**

3. -3 + 7 = **4**

4. -4 + (-3) = **-7**

5. -2 + (-7) = **-9**

6. -2 - (-7) = **5**

Answer Key For The California Mathematics Standards
Grade 5

Number Sense 2.0: Students perform calculations and solve problems involving addition, subtraction, and simple multiplication and division of fractions and decimals.

NS 2.2: Students demonstrate proficiency with division, including division with positive decimals and long division with multidigit divisors.

a. $45\overline{)32{,}694}$ =

$$726\tfrac{24}{45} = 726\tfrac{8}{15}$$

```
  45 | 32,694
     - 315
       ----
       119
       - 90
       ----
       294
       - 270
       -----
        24
```

b. $504 \div 2.1$ =

```
    240
  ------
2.1 | 504.0
    - 42
    ----
     84
   - 84
   ----
      0
      0
```

c. $1{,}324 \div 20$ =

```
    66.2
  -------
20 | 1,324.0
   - 120
   -----
     124
   - 120
   -----
      40
      40
```

Answer Key For The California Mathematics Standards Grade 5

Number Sense 2.0: Students perform calculations and solve problems involving addition, subtraction, and simple multiplication and division of fractions and decimals.

NS 2.3: Students solve simple problems, including ones arising in concrete situations, involving the addition and subtraction of fractions and mixed numbers (like and unlike denominators of 20 or less), and express answers in the simplest form.

Write the answers:

a. $\frac{3}{4} + \frac{2}{3} =$

LCM is 12

$\frac{9}{12} + \frac{8}{12} = \frac{17}{12} = 1\frac{5}{12}$

b. $2 - \frac{1}{3} =$ $1\frac{3}{3} - \frac{1}{3} = 1\frac{2}{3}$

c. $3\frac{4}{5} + 2\frac{7}{10} =$

$3\frac{4}{5} + 2\frac{7}{10} =$

$3\frac{8}{10} + 2\frac{7}{10} =$

$5\frac{15}{10} = 6\frac{5}{10} = 6\frac{5}{10}$

d. $3\frac{5}{12} - 1\frac{3}{18}$

$3\frac{5}{12} - 1\frac{3}{18} =$

$3\frac{15}{36} - 1\frac{6}{36} =$

$2\frac{9}{36} = 2\frac{1}{4}$

Answer Key For The California Mathematics Standards
Grade 5

Number Sense 2.0: Students perform calculations and solve problems involving addition, subtraction, and simple multiplication and division of fractions and decimals.

NS 2.4: Students understand the concept of multiplication and division of fractions.

Write the answers:

a. $\frac{3}{4} \times \frac{8}{9} = \frac{2}{3}$

$\frac{3}{4} \times \frac{8}{9} = \frac{24}{36}$

$= \frac{2}{3}$

4 and 8 have a common factor of 4.
3 and 9 have a common factor of 3.

$\frac{{}^{1}\cancel{3}}{{}^{1}\cancel{4}} \times \frac{\cancel{8}^{2}}{\cancel{9}_{3}} = \frac{2}{3}$

b. $\frac{2}{5} \div \frac{1}{2} = \frac{4}{5}$

$\frac{2}{5} \div \frac{1}{2} =$

$\frac{2}{5} \times \frac{2}{1} = \frac{4}{5}$

Answer Key For The California Mathematics Standards Grade 5

Number Sense 2.0: Students perform calculations and solve problems involving addition, subtraction, and simple multiplication and division of fractions and decimals.

NS 2.5: Students compute and perform simple multiplication and division of fractions and apply these procedures to solving problems.

a. A ribbon is 40 inches long. We want to cut the ribbon into pieces. Each piece will be $\frac{2}{3}$ of an inch. How many pieces will we have?

$40 \div \frac{2}{3}$

$= 40 \times \frac{3}{2}$

$= \frac{{}^{20}\cancel{40}}{1} \times \frac{3}{\cancel{2}_1}$

$= 60$

40 and 2 have a common factor of 2

60 pieces

b. There are 20 bottles in a box. Each bottle weighs $1\frac{3}{4}$ pounds. How many pounds do all the bottles weigh together?

$20 \times 1\frac{3}{4}$

$= \frac{20}{1} \times \frac{7}{4}$

$= \frac{5}{1} \times \frac{7}{1} = 35$

20 and 4 have a common factor of 4.

35 pounds

Answer Key For The California Mathematics Standards
Grade 5

Number Sense 2.0: Students perform calculations and solve problems involving addition, subtraction, and simple multiplication and division of fractions and decimals.

NS 2.5: Students compute and perform simple multiplication and division of fractions and apply these procedures to solving problems.

[CONTINUED]

c. Richard has a large pizza. He gives away $\frac{1}{3}$ of it, then he gives away $\frac{1}{2}$ of what he has. How much pizza does Richard have left?

$1 - \frac{1}{3} = \frac{3}{3} - \frac{1}{3} = \frac{2}{3}$ remaining of the pizza after $\frac{1}{3}$ was given away.

Then $\frac{2}{3} - \frac{1}{2}(\frac{2}{3})$

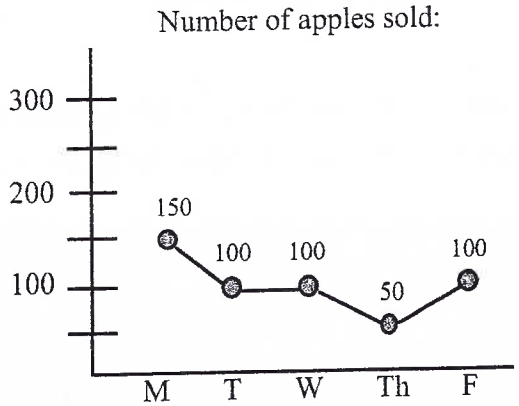
$= \frac{2}{3} - \frac{1}{3}$

$= \frac{1}{3}$ of the pizza is left.

Answer Key For The California Mathematics Standards Grade 5

Algebra and Functions 1.0: Students use variables in simple expressions, compute the value of the expression for specific values of the variable, and plot and interpret the results.

AF 1.1: Students use information taken from a graph or equation to answer questions about a problem situation.



a. How many apples were sold this week? 500 apples

b. How many more apples were sold on Monday than on Friday? 50 more

Algebra and Functions 1.0: Students use variables in simple expressions, compute the value of the expression for specific values of the variable, and plot and interpret the results.

AF 1.2: Students use a letter to represent an unknown number; write and evaluate simple algebraic expressions in one variable by substitution.

a. A number y is five times greater than two added to a number x. Write an expression for y in terms of x. If x = 3, what is y? y = 5(x + 2)

When x = 3
y = 5(3 + 2)
= 5(5)
= 25

b. y = 3x + 2, what is y if x is 7?

y = 3x + 2 when x = 7
y = 3(7) + 2
= 21 + 2
= 23

Answer Key For The California Mathematics Standards
Grade 5

Algebra and Functions 1.0: Students use variables in simple expressions, compute the value of the expression for specific values of the variable, and plot and interpret the results.

AF 1.3: Students know and use the distributive property in equations and expressions with variables.

$3(4y - 2) =$

A. $7y - 2$

B. $7y + 6$

C. $12y - 5$

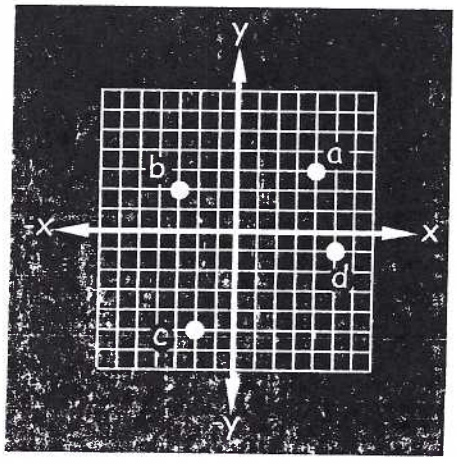
(D) $12y - 6$

$$3(4y - 2) = 3 \cdot 4y - 3 \cdot 2$$
$$= 12y - 6$$

Algebra and Functions 1.0: Students use variables in simple expressions, compute the value of the expression for specific values of the variable, and plot and interpret the results.

AF 1.4: Students identify and graph ordered pairs in the four quadrants of the coordinate plane.

Plot these points: a. (4, 3) b. (-3, 2) c. (-2, -5) d. (5, -1)



Answer Key For The California Mathematics Standards Grade 5

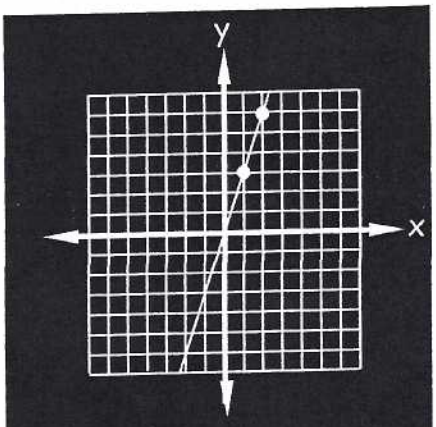
Algebra and Functions 1.0: Students use variables in simple expressions, compute the value of the expression for specific values of the variable, and plot and interpret the results.

AF 1.5: Students solve problems involving linear functions with integer values; write the equation; and graph the resulting ordered pairs of integers on a grid.

Every car is charged $3 to park. Write the equation for the total charges y if there are x number of cars. Complete the table and plot the points from the table onto the graph.

x	y
1	3
2	6

Which leads to equation
y = 3x



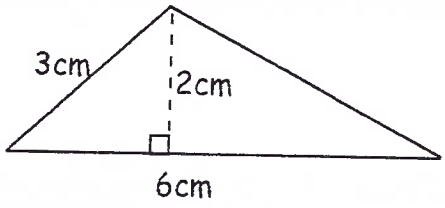
Where y is the total charges for parking and where x is the total number of cars.

Answer Key For The California Mathematics Standards
Grade 5

Measurement and Geometry 1.0: Students understand and compute the volumes and areas of simple objects.

MG 1.1: Students derive and use the formula for the area of a triangle and of a parallelogram by comparing it with the formula for the area of a rectangle (i.e., two of the same triangles make a parallelogram with twice the area; a paralleogram is compared with a rectangle of the same area by cutting and pasting a right triangle on the parallelogram).

a. What is the area of this triangle?



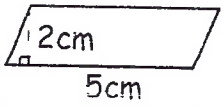
$A = \frac{1}{2}bh$

$= \frac{1}{2}(6)(2)$

$= \frac{1}{2} \cdot \frac{2}{1} \cdot \frac{6}{1}$

$= 6cm^2$

b. What is the area of this parallelogram?



$A = bh$

$= (5)(2)$

$= 10cm^2$

Answer Key For The California Mathematics Standards Grade 5

Measurement and Geometry 1.0: Students understand and compute the volumes and areas of simple objects.

MG 1.2: Students constructs a cube and rectangular box from two-dimensional patterns and use these patterns to compute the surface area for these objects.

What is the surface area of a cube whose edges each measure 3 inches?

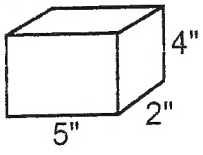
A cube has 6 faces. Each face has area side x side, or s^2.

$SA = 6s^2$
$= 6(3)^2$
$= 6(9) = 54$ square inches

Measurement and Geometry 1.0: Students understand and compute the volumes and areas of simple objects.

MG 1.3: Students understand the concept of volume and use the appropriate units in common measuring systems (i.e., cubic centimeter [cm^3], cubic meter [m^3], cubic inch [in^3], cubic yard [yd^3]) to compute the volume of rectangular solids.

What is the volume of this block?



$V = l \cdot w \cdot h$
$=(5)(2)(4)$
$= 40in^3$

Where $l = 5$
$w = 2$
$h = 4$

Answer Key For The California Mathematics Standards Grade 5

Measurement and Geometry 1.0: Students understand and compute the volumes and areas of simple objects.

MG 1.4: Students differentiate between, and use appropriate units of measures for, two- and three-dimensional objects (i.e., find the perimeter, area, volume).

Identify the statements below as relating to length, area or volume.

a. The perimeter of a triangle — length

b. The amount of water a barrel will hold — volume

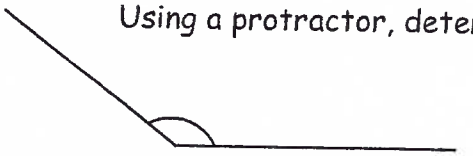
c. The amount of astroturf to cover a football field — area

d. The number of bricks to pave a path — area

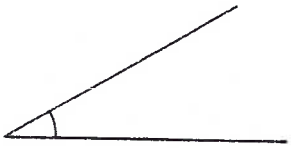
Measurement and Geometry 2.0: Students identify, describe, and classify the properties of, and the relationships between, plane and solid geometric figures.

MG 2.1: Students measure, identify, and draw angles, perpendicular and parallel lines, rectangles, and triangles by using appropriate tools (e.g., straightedge, ruler, compass, protractor, drawing software).

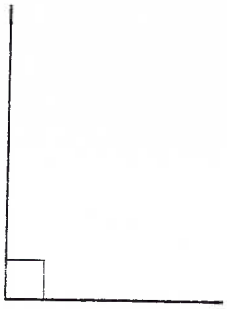
Using a protractor, determine the number of degrees in each angle.



a. 142°



b. 38°



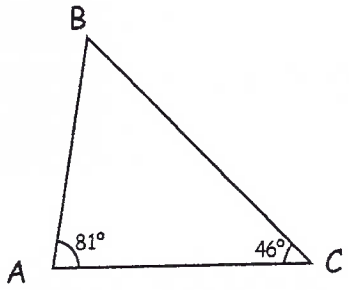
c. 90°

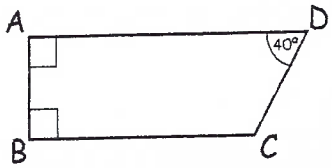
Answer Key For The California Mathematics Standards Grade 5

Measurement and Geometry 2.0: Students identify, describe, and classify the properties of, and the relationships between, plane and solid geometric figures.

MG 2.2: Students know that the sum of the angles of any triangle is 180° and the sum of the angles of any quadrilateral is 360° and use this information to solve problems.

Examine the figures and answer the qustions:





a. m∠B = **53°**

b. How many degrees in angle BCD? **140°**

$m\angle A + m\angle B + m\angle C = 180°$

$81° + m\angle B + 46° = 180°$

$m\angle B + 127° = 180°$

$m\angle B = 53°$

$m\angle A + m\angle B + m\angle C + m\angle D = 360°$

$90° + 90° + m\angle C + 40° = 360°$

$m\angle C + 220° = 360°$

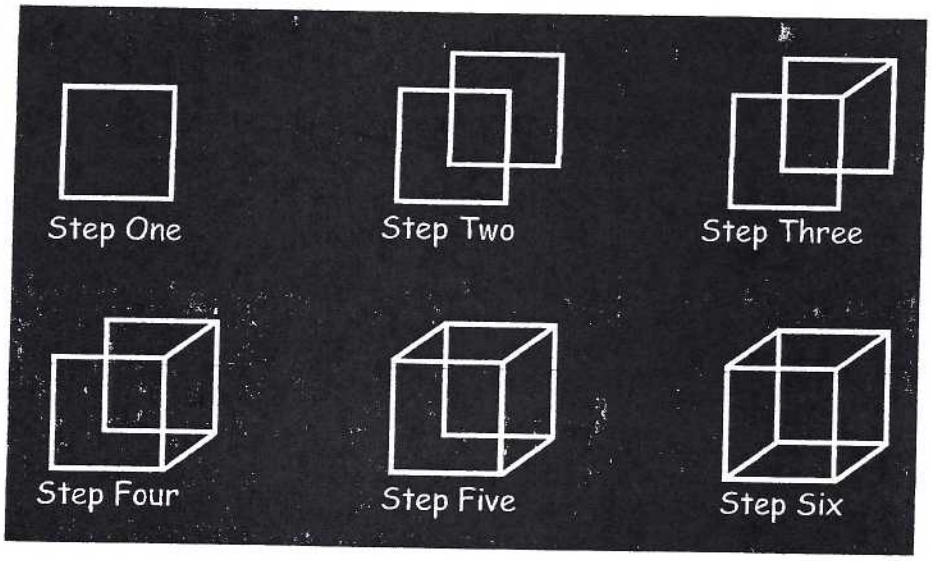
$m\angle C = 140°$

Answer Key For The California Mathematics Standards
Grade 5

Measurement and Geometry 2.0: Students identify, describe, and classify the properties of, and the relationships between, plane and solid geometric figures.

MG 2.3: Students visualize and draw two-dimensional views of three-dimensional objects made from rectangular solids.

Draw a cube.



Answer Key For The California Mathematics Standards
Grade 5

Statistics, Data Analysis, and Probability 1.0: Students display, analyze, compare and interpret different data sets, including data sets of different sizes.

S 1.1: Students know the concepts of mean, median, and mode; compute and compare simple examples to show that they may differ.

Here are Jason's scores on science tests this year.

test	1	2	3	4	5	6	7	8	9	10	11
score	85	91	48	98	99	91	90	84	91	87	80

a. What is his median score? 90

48 80 84 85 87 <u>90</u> 91 91 91 98 99

b. What is the mode for all these scores?

91 is the mode since it is listed three times, more than any other number

c. What is the mean of Jason's first five scores?

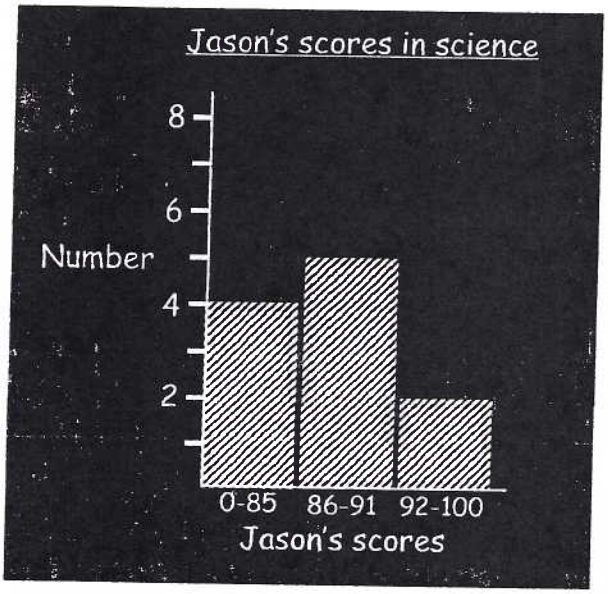
$$\frac{85 + 91 + 48 + 98 + 99}{5} = \frac{421}{5} = 84.2$$

Answer Key For The California Mathematics Standards
Grade 5

Statistics, Data Analysis, and Probability 1.0: Students display, analyze, compare, and interpret different data sets, including data sets of different sizes.

S 1.2: Students organize and display single-variable data in appropriate graphs and representations (e.g., histogram, circle graphs) and explain which types of graph are appropriate for various data sets.

For Jason's marks in science (see question S 1.1 on previous page), create a histogram for these ranges of scores: 0-85, 86-91, 92-100.



Answer Key For The California Mathematics Standards
Grade 5

Statistics, Data Analysis, and Probability 1.0: Students display, analyze, compare, and interpret different data sets, including data sets of different sizes.

S 1.3: Students use fractions and percentages to compare data sets of different sizes.

In Ms. Jones' class, 21 of 30 children passed the math test. In Ms.Tyler's class, 18 of 25 children passed the math test.

a. In which class did a higher percentage of students pass?

Ms. Jones' class

$\frac{x}{100} = \frac{21}{30}$

$30x = 2{,}100$

$x = 70\%$

Ms. Tyler's class

$\frac{x}{100} = \frac{18}{25}$

$25x = 1{,}800$

$x = 72\%$

b. By how many more percentage points?

72%-70%=2%more

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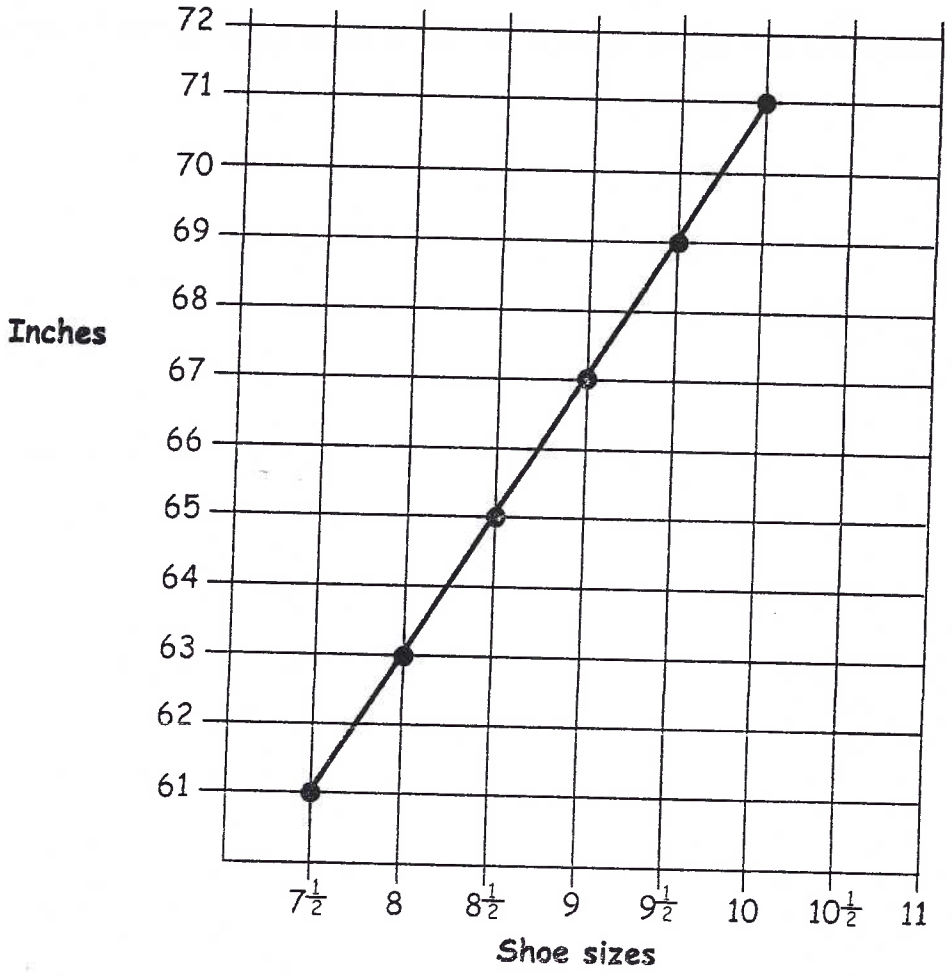
Answer Key For The California Mathematics Standards Grade 5

Statistics, Data Analysis, and Probability 1.0: Students display, analyze, compare, and interpret different data sets, including data sets of different sizes.

S 1.4: Students identify ordered pairs of data from a graph and interpret the meaning of the data in terms of the situation depicted by the graph.



This graph show the relationship between height and shoe size. According to the data depicted above, what shoe size does a man 71 inches tall wear?

Size 10

Answer Key For The California Mathematics Standards
Grade 5

Statistics, Data Analysis, and Probability 1.0: Students display, analyze, compare, and interpret different data sets, including data sets of different sizes.

S 1.5: Students know how to write ordered pairs correctly; for example, (x, y).

Referring to question S 1.4, which comes first in the ordered pairs, height or shoe size?

Shoe size