

4<sup>th</sup> grade released  
STAAR test questions  
organized by TEKS

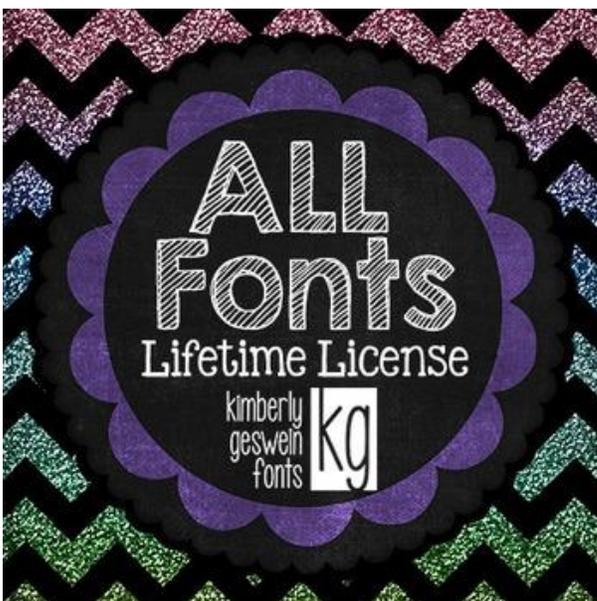
Includes both 2015 and 2016 Released  
Tests, assessed TEKS only

# HOW TO USE THIS RESOURCE

The materials contained in this packet at Released STAAR Test questions from the Texas Education Agency's website. The test questions are organized by standard, so that teachers can align instruction to the STAAR test. Remember that all standards are required to be taught, even though not every standard is included on the test. This resource is not to be used to "teach to the test" but to help align instruction to the test. Please use this to review how the TEK is tested, so that you can incorporate STAAR-like review and questions throughout your instructional year, with whatever program and instructional delivery model you use.

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# What's INCLUDED

## 4<sup>th</sup> grade Released test by TEKS

	Pages	2015 Released STAAR-Answer	2016 Released STAAR-Answer
<a href="#">4.2a</a>	5	H-B	
<a href="#">4.2b RS</a>	5-7	2-D	16-G, 42-G
<a href="#">4.2c</a>	8		9-B
<a href="#">4.2e</a>	9		31-C
<a href="#">4.2f</a>	10		27-D
<a href="#">4.2g RS</a>	11-12	3-C	1-A, 22-G, 36-G
<a href="#">4.2h</a>	13		48-G
<a href="#">4.3a</a>	15	4-B	6-H
<a href="#">4.3b</a>	16	5-A	
<a href="#">4.3c</a>	17	6-D	
<a href="#">4.3d RS</a>	18-19	7-D	18-F, 44-F
<a href="#">4.3e RS</a>	20-21	8-C	12-J, 39-D
<a href="#">4.3f</a>	22	9-A	
<a href="#">4.4a RS</a>	24-25	10-C	15-A, 34-60, 29
<a href="#">4.4b</a>	26		5-B
<a href="#">4.4d</a>	27		7-D
<a href="#">4.4f</a>	28		30-F
<a href="#">4.4g</a>	29		32-F
<a href="#">4.4h RS</a>	30	I	2-G, 28-G, 45-D

Included is the Guide: List of TEKS in order, with clickable menu, pages, and questions with the answers.

(2) NUMBER AND OPERATIONS. THE STUDENT APPLIES MATHEMATICAL PROCESS STANDARDS TO REPRESENT, COMPARE AND ORDER WHOLE NUMBERS AND DECIMALS AND UNDERSTAND RELATIONSHIPS RELATED TO PLACE VALUE. THE STUDENT IS EXPECTED TO:

(A) interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left;

(B) represent the value of the digit in whole numbers through 100,000,000 and decimals to the hundredths using expanded notation and numerals;

(C) compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols  $>$ ,  $<$ , or  $=$ ;

(D) round whole numbers to a given place value through the hundred thousands place;

(E) represent decimals, including tenths and hundredths, using concrete and visual models and money;

(F) compare and order decimals using concrete and visual models to the hundredths;

(G) relate decimals to fractions that name tenths and hundredths, and

(H) determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

Each TEK includes the front page with all standards and student expectations listed. Bolded student expectations notify you of Readiness Standards.

## 4.2b: Readiness Standard

2 Lillian paid sixty-one dollars and thirty-nine cents for groceries. The digit 3 in this number has a value of —

- A  $(3 \times 10)$  dollars
- B  $(3 \times 1)$  dollars
- C  $(3 \times 0.01)$  dollar
- D  $(3 \times 0.1)$  dollar

16 Which statement about the number 726,483.19 is true?

- F The digit 9 has a value of  $(9 \times 100)$ .
- G The digit 4 has a value of  $(4 \times 100)$ .
- H The digit 8 has a value of  $(8 \times 0.1)$ .
- J The digit 2 has a value of  $(2 \times 10)$ .

Pages with the questions include the header with the TEK number and SE letter. Readiness Standards are included on those title pages only.

# 4<sup>th</sup> grade released test by TEKS

	pages	2015 Released STAAR-Answer	2016 Released STAAR-Answer
<a href="#">4.2a</a>	5	I-B	
<a href="#">4.2b RS</a>	5-7	2-D	16-G, 42-G
<a href="#">4.2c</a>	8		9-B
<a href="#">4.2e</a>	9		31-C
<a href="#">4.2f</a>	10		27-D
<a href="#">4.2g RS</a>	11-12	3-C	1-A, 22-G, 36-G
<a href="#">4.2h</a>	13		48-G
<a href="#">4.3a</a>	15	4-B	6-H
<a href="#">4.3b</a>	16	5-A	
<a href="#">4.3c</a>	17	6-D	
<a href="#">4.3d RS</a>	18-19	7-D	18-F, 44-F
<a href="#">4.3e RS</a>	20-21	8-C	12-J, 39-D
<a href="#">4.3f</a>	22	9-A	
<a href="#">4.4a RS</a>	24-25	10-C	15-A, 34-60.29
<a href="#">4.4b</a>	26		5-B
<a href="#">4.4d</a>	27		7-D
<a href="#">4.4f</a>	28		30-F
<a href="#">4.4g</a>	29		32-F
<a href="#">4.4h RS</a>	30	11-A	2-G, 28-G, 45-D

# 4<sup>th</sup> grade released test by TEKS, CONT.

	pages	2015 Released STAAR	2016 Released STAAR
<a href="#">4.5a RS</a>	32-33	12-B	10-F, 21-A, 37-D
<a href="#">4.5b RS</a>	34-36	13-C	24-H, 47-C
<a href="#">4.5d RS</a>	37-38	14-D	8-H, 17-C, 33-B
<a href="#">4.6a</a>	40		40-G
<a href="#">4.6b</a>	41		11-B
<a href="#">4.6c</a>	42		20-G
<a href="#">4.6d RS</a>	43	15-C	14-H, 43-C
<a href="#">4.7c RS</a>	45-47	16-A	23-D, 46-H
<a href="#">4.7d</a>	48	17-B	
<a href="#">4.7e</a>	49	18-C	3-D
<a href="#">4.8a</a>	51		35-A
<a href="#">4.8b</a>	52		26-216
<a href="#">4.8c RS</a>	53	19-B	19-C, 38-H
<a href="#">4.9a RS</a>	55-57	20-D	4-J, 41-A
<a href="#">4.9b</a>	58-59	21-A	13-29
<a href="#">4.10a</a>	61		29-C
<a href="#">4.10b</a>	62	22-C	25-A
<a href="#">4.10e</a>	63	23-B	

(2) NUMBER AND OPERATIONS. THE STUDENT APPLIES MATHEMATICAL PROCESS STANDARDS TO REPRESENT, COMPARE, AND ORDER WHOLE NUMBERS AND DECIMALS AND UNDERSTAND RELATIONSHIPS RELATED TO PLACE VALUE. THE STUDENT IS EXPECTED TO:

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(H) determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

## 4.2a

- 1** In the number shown, one digit is underlined and one digit is circled.

7⑦,000

Which statement about the circled digit is true?

- A** Its value is 10 times greater than the value of the underlined digit.
- B** Its value is  $\frac{1}{10}$  the value of the underlined digit.
- C** Its value is 70 times the value of the underlined digit.
- D** Its value is  $\frac{1}{70}$  the value of the underlined digit.

## 4.2b: READINESS STANDARD

- 2 Lillian paid sixty-one dollars and thirty-nine cents for groceries. The digit 3 in this number has a value of —
- A  $(3 \times 10)$  dollars
  - B  $(3 \times 1)$  dollars
  - C  $(3 \times 0.01)$  dollar
  - D  $(3 \times 0.1)$  dollar

16 Which statement about the number 726,483.19 is true?

- F The digit 9 has a value of  $(9 \times 100)$ .
- G The digit 4 has a value of  $(4 \times 100)$ .
- H The digit 8 has a value of  $(8 \times 0.1)$ .
- J The digit 2 has a value of  $(2 \times 10)$ .

## 4.2b: Readiness Standard, CONT.

- 47 The table shows a relationship between the input numbers and the output numbers generated by a number machine.

Number Machine

Input	Output
1	251
2	252
3	253
4	254

Which number machine shows the same relationship as the one shown in the table?



## 4.2C

9 The table below shows the length of the railway network in each of five countries.

Railway Networks

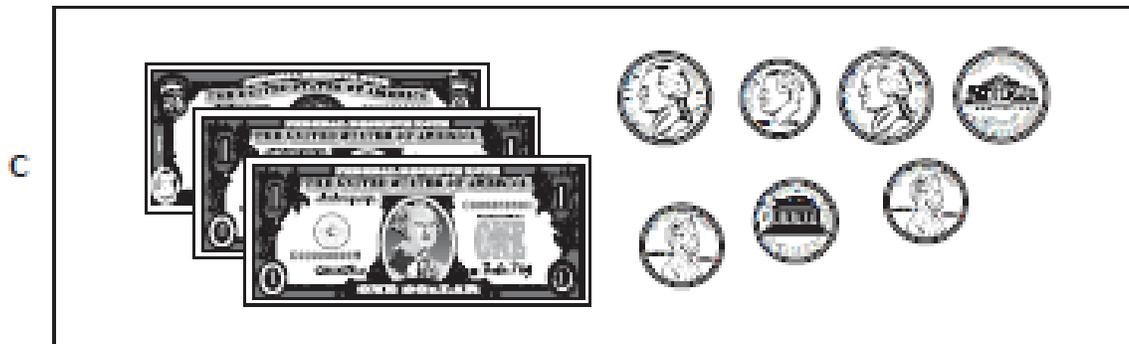
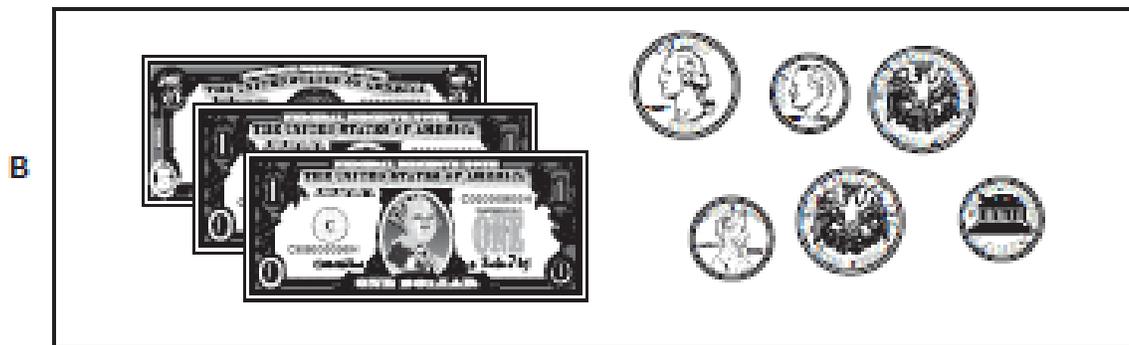
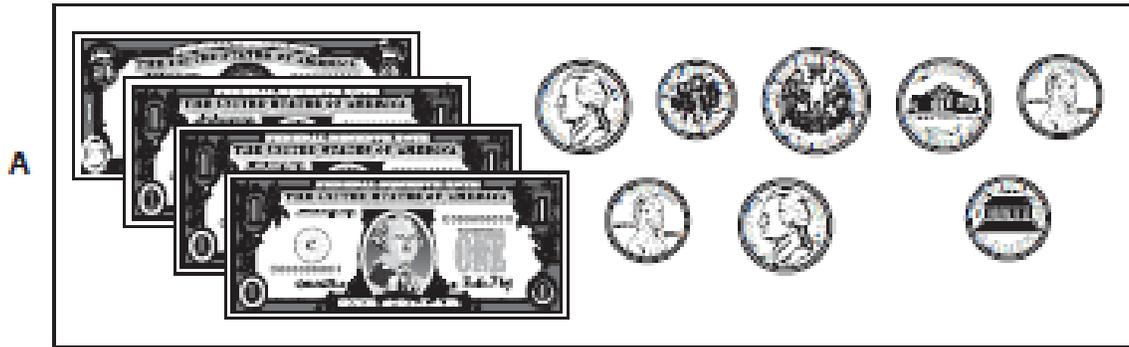
Country	Length of Railway (meters)
Brazil	28,538,000
France	29,640,000
Italy	20,255,000
Japan	27,182,000
South Africa	20,192,000

Which list shows these countries in order from shortest to longest railway network?

- A France, Brazil, Japan, Italy, South Africa
- B South Africa, Italy, Japan, Brazil, France
- C France, South Africa, Italy, Japan, Brazil
- D South Africa, Italy, Japan, France, Brazil

# 4.2e

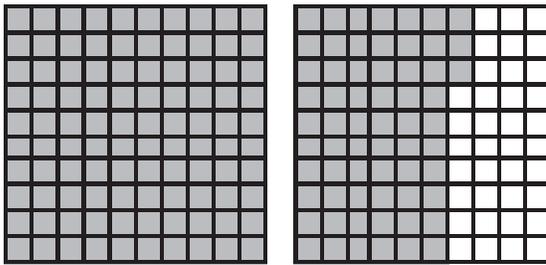
31 Each picture below represents a different amount of money. In which amount of money does the digit 8 represent eight cents?



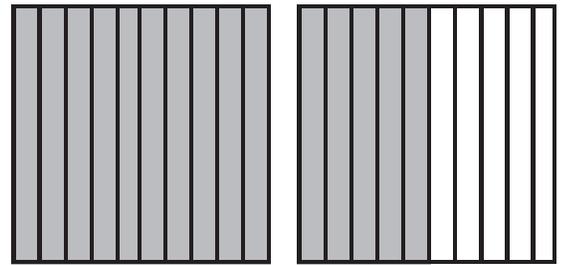
# 4.2f

27 The distances in meters that four students jumped are modeled below.

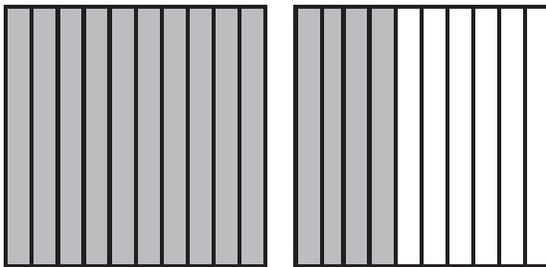
Marisol



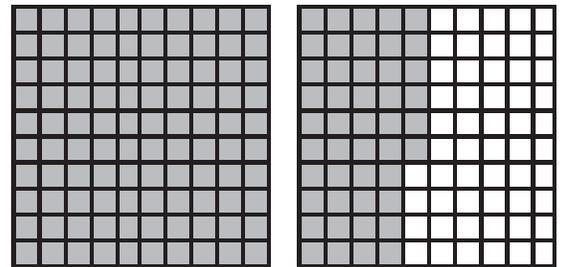
Benito



Otis



Angie



Which list shows these distances in order from greatest to least?

- A 1.46 m   1.5 m   1.4 m   1.63 m
- B 1.63 m   1.46 m   1.5 m   1.4 m
- C 1.4 m   1.46 m   1.5 m   1.63 m
- D 1.63 m   1.5 m   1.46 m   1.4 m

# 4.29: READINESS STANDARD

3 Antwaan decorated 2.5 cakes with chocolate icing. Which fraction is equivalent to this number?

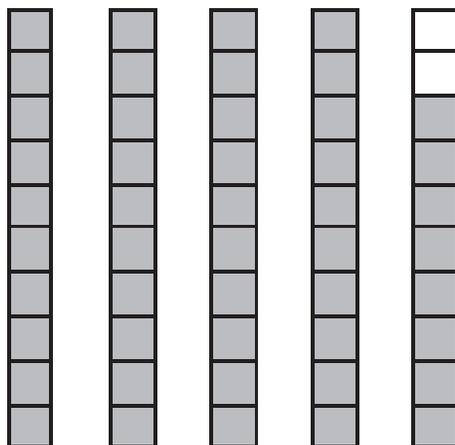
A  $\frac{25}{100}$

B  $\frac{5}{10}$

C  $2\frac{5}{10}$

D  $2\frac{5}{100}$

1 Estelle shaded the model below to represent the height of a building that is 4.8 meters tall.



Which fraction represents the height of this building in meters?

A  $4\frac{8}{10}$

B  $\frac{48}{50}$

C  $4\frac{8}{100}$

D  $\frac{48}{100}$

## 4.29: READINESS STANDARD, CONT.

22 Which equation shows an equivalent decimal and fraction?

F  $12.09 = 12\frac{9}{10}$

G  $12.09 = 12\frac{9}{100}$

H  $12.90 = 12\frac{1}{90}$

J  $12.90 = 12\frac{90}{10}$

36 Mrs. Briones has a pitcher that contains  $3\frac{75}{100}$  quarts of lemonade. Which decimal is equivalent to this number?

F 3.075

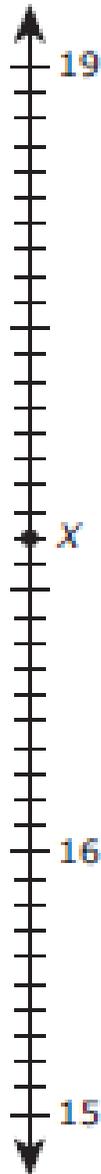
G 3.75

H 0.375

J 300.75

# 4.2h

48 Point  $X$  on the number line below represents the height of a puppy in centimeters.



What measurement does point  $X$  represent on the number line?

F 16.12 cm

G 17.2 cm

H 18.8 cm

J 17.8 cm

(3) NUMBER AND OPERATIONS. THE STUDENT APPLIES MATHEMATICAL PROCESS STANDARDS TO REPRESENT AND GENERATE FRACTIONS TO SOLVE PROBLEMS. THE STUDENT IS EXPECTED TO:

(A) represent a fraction  $a/b$  as a sum of fractions  $1/b$ , where  $a$  and  $b$  are whole numbers and  $b > 0$ , including when  $a > b$ ;

(B) decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations;

(C) determine if two given fractions are equivalent using a variety of methods;

(D) compare two fractions with different numerators and different denominators and represent the comparison using the symbols  $>$ ,  $=$ , or  $<$ ;

(E) represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations;

(F) evaluate the reasonableness of sums and differences of fractions using benchmark fractions  $0$ ,  $1/4$ ,  $1/2$ ,  $3/4$ , and  $1$ , referring to the same whole; and

(G) represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

## 4.3a

4 Which expression is equivalent to  $\frac{6}{5}$ ?

A  $\frac{1}{6} + \frac{1}{5}$

B  $\frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$

C  $\frac{1}{5} + \frac{6}{1}$

D  $\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6}$

6 The fraction  $\frac{3}{8}$  can be represented by this expression.

$$\frac{1}{8} + \frac{1}{8} + \square$$

Which fraction belongs in the  $\square$  to complete the expression?

F  $\frac{2}{8}$

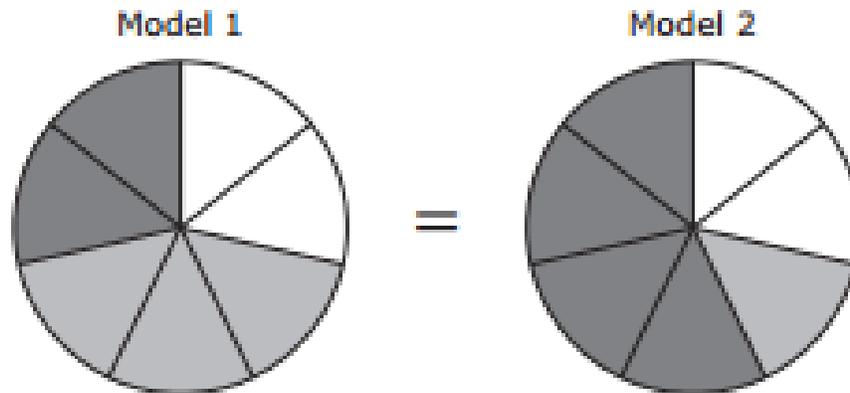
G  $\frac{3}{8}$

H  $\frac{1}{8}$

J  $\frac{1}{16}$

# 4.3b

- 5 The two models are shaded to represent the same fraction,  $\frac{5}{7}$ .



Which equation shows that the two models represent the same fraction?

A  $\frac{2}{7} + \frac{3}{7} = \frac{4}{7} + \frac{1}{7}$

B  $\frac{2}{7} + \frac{3}{7} = \frac{5}{7} + \frac{1}{7}$

C  $\frac{1}{2} + \frac{1}{3} = \frac{1}{4} + \frac{1}{1}$

D  $\frac{1}{2} + \frac{1}{3} = \frac{1}{5} + \frac{1}{1}$

## 4.3C

- 6 Which statement about the fractions  $\frac{5}{10}$  and  $\frac{6}{12}$  is true?
- A These fractions are both greater than 1, because their denominators are greater than their numerators.
  - B These fractions are both equal to 1, because their denominators are greater than their numerators.
  - C These fractions are equivalent, because their denominators are half their numerators.
  - D These fractions are equivalent, because their denominators are twice their numerators.

## 4.3d: READINESS STANDARD

- 7 Faith has completed  $\frac{6}{18}$  of her math homework. Olivia has completed  $\frac{4}{9}$  of her math homework. Which of these girls has completed a greater fraction of her math homework?

A Faith, because  $\frac{6}{18} > \frac{4}{9}$

B Faith, because  $\frac{6}{18} < \frac{4}{9}$

C Olivia, because  $\frac{4}{9} < \frac{6}{18}$

D Olivia, because  $\frac{4}{9} > \frac{6}{18}$

- 18 Which comparison is true?

F  $\frac{1}{5} < \frac{2}{4}$

G  $\frac{2}{3} < \frac{1}{2}$

H  $\frac{1}{4} < \frac{2}{10}$

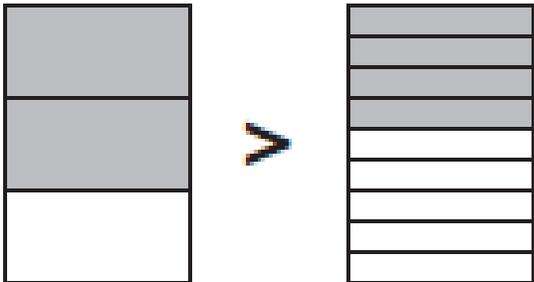
J  $\frac{1}{3} < \frac{2}{7}$

# 4.3d: Readiness Standard, cont.

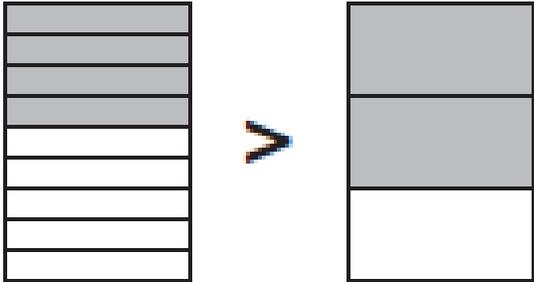
44 Sergio completed  $\frac{2}{3}$  of a project. Julius completed  $\frac{4}{9}$  of an identical project. Each student shaded a model to represent the fraction of the project he completed.

Which student completed more of his project?

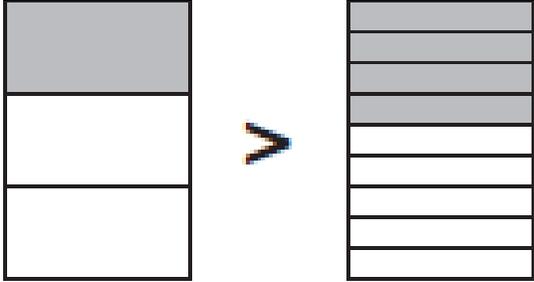
F Sergio completed more, because



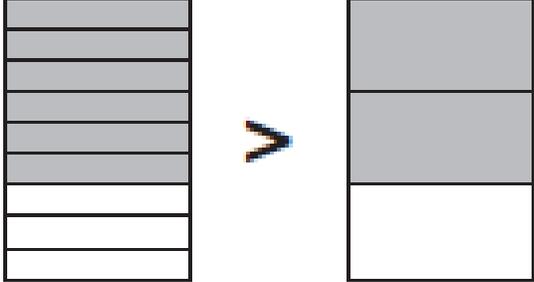
G Julius completed more, because



H Sergio completed more, because

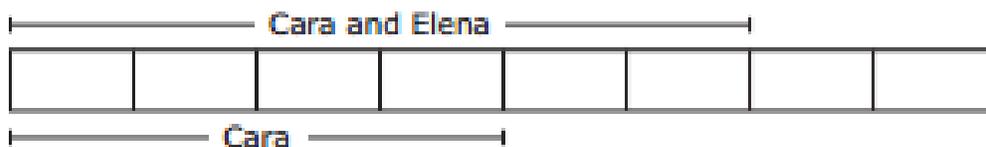


J Julius completed more, because



# 4.30: READINESS STANDARD

- 8 Cara and Elena used fabric to make costumes for a talent show. Cara used  $\frac{4}{8}$  of the fabric for her costume. The girls used  $\frac{6}{8}$  of the fabric altogether.



What fraction of the fabric did Elena use?

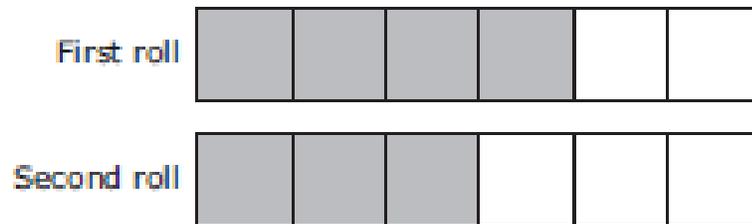
- A  $\frac{10}{16}$
- B  $\frac{10}{8}$
- C  $\frac{2}{8}$
- D  $\frac{1}{2}$
- 
- 12 Yasmine made waffles for her family.
- $\frac{4}{7}$  of the waffles were blueberry.
  - $\frac{1}{7}$  of the waffles were chocolate chip.
  - The rest of the waffles did not have blueberries or chocolate chips.

What fraction of the waffles did not have blueberries or chocolate chips?

- F  $\frac{5}{7}$ , because  $\frac{4}{7} + \frac{1}{7} = \frac{5}{7}$
- G  $\frac{12}{7}$ , because  $\frac{4}{7} + \frac{1}{7} = \frac{5}{7}$  and  $\frac{7}{7} + \frac{5}{7} = \frac{12}{7}$
- H  $\frac{3}{7}$ , because  $\frac{4}{7} - \frac{1}{7} = \frac{3}{7}$
- J  $\frac{2}{7}$ , because  $\frac{4}{7} + \frac{1}{7} = \frac{5}{7}$  and  $\frac{7}{7} - \frac{5}{7} = \frac{2}{7}$

# 4.30: READINESS STANDARD, CONT.

- 39 Mrs. Bernstein used parts of two identical rolls of paper to wrap packages. The models are shaded to represent the part of each roll of paper she used.



What fraction of the rolls of paper did Mrs. Bernstein use to wrap the packages?

- A  $\frac{1}{6}$
- B  $1\frac{3}{6}$
- C  $\frac{3}{6}$
- D  $1\frac{1}{6}$

## 4.3f

- 9 Hailey and Wendy painted an entire wall together. Hailey painted  $\frac{3}{7}$  of the wall, and Wendy painted the rest. Which statement is true?
- A Hailey painted less than half the wall, and Wendy painted more than half the wall.
  - B Hailey painted more than half the wall, and Wendy painted less than half the wall.
  - C Each girl painted more than half the wall.
  - D Each girl painted less than half the wall.

(4) NUMBER AND OPERATIONS. THE STUDENT APPLIES MATHEMATICAL PROCESS STANDARDS TO DEVELOP AND USE STRATEGIES AND METHODS FOR WHOLE NUMBER COMPUTATIONS AND DECIMAL SUMS AND DIFFERENCES IN ORDER TO SOLVE PROBLEMS WITH EFFICIENCY AND ACCURACY. THE STUDENT IS EXPECTED TO:

(A) add and subtract whole numbers and decimals to the hundredths place using the standard algorithm;

(B) determine products of a number and 10 or 100 using properties of operations and place value understandings;

(C) represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15;

(D) use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties;

(E) represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations;

(F) use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor;

(G) round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers; and

(H) solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.

## 4.4a: READINESS STANDARD

**10** The locations and lengths of three of the longest tunnels in the world are listed.

- Gotthard Base Tunnel in Switzerland, 57.07 km
- Seikan Tunnel in Japan, 53.85 km
- Channel Tunnel between England and France, 50.45 km

What is the difference between the length of the Channel Tunnel and the length of the Gotthard Base Tunnel in kilometers?

- A** 3.22 km
- B** 7.62 km
- C** 6.62 km
- D** 7.42 km

# 4.4a: Readiness Standard

15 The list shows the number of trees Isaiah planted in three years.

- He planted 521 trees in the first year.
- He planted 387 trees in the second year.
- He planted 438 trees in the third year.

Isaiah wants to plant a total of 2,000 trees. How many more trees does Isaiah need to plant?

- A 654
- B 1,346
- C 874
- D 764

34 Jana bought 1 hat and 2 skirts. The hat cost \$28.53, and the skirts cost \$15.88 each. What was the total cost in dollars and cents of the items Jana bought?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

			.		
0	0	0		0	0
1	1	1		1	1
2	2	2		2	2
3	3	3		3	3
4	4	4		4	4
5	5	5		5	5
6	6	6		6	6
7	7	7		7	7
8	8	8		8	8
9	9	9		9	9

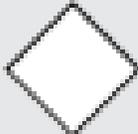
4.4b

5 A number sentence is shown below.

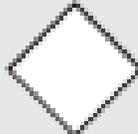
$$\diamond \times 10 = \bigcirc$$

Which table shows numbers that make the number sentence true?

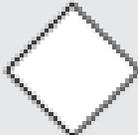
**A**

	
44	54
66	76
99	109
150	160

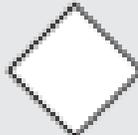
**C**

	
44	4,400
66	6,600
99	9,900
150	15,000

**B**

	
44	440
66	660
99	990
150	1,500

**D**

	
44	404
66	606
99	909
150	1,050

4.4d

- 7 A basketball team plays 82 games each year. How many games will the team play in 25 years?
- A 1,050
  - B 2,040
  - C 2,090
  - D 2,050

4.4f

- 30 There are 1,092 people who work in an office building. The building has 4 floors, and the same number of people work on each floor. How many people work on each floor?
- F 273
  - G 223
  - H 373
  - J 348

4.49

- 32 Jorge swam a total of 173 minutes during 3 days. He swam the same number of minutes each day. Which of the following is the best estimate of the number of minutes Jorge swam each day?
- F 60
  - G 40
  - H 20
  - J 30

# 4.4h: READINESS STANDARD

**11** Kareem will use beads to make bracelets. He has 475 beads and needs to use 9 beads for each bracelet. What is the greatest number of bracelets Kareem can make with 475 beads?

**A** 52

**B** 49

**C** 45

**D** 53

**2** Eric has 158 action figures to put in display cases. Each display case can hold 8 action figures. How many cases does Eric need to hold all his action figures?

**F** 18

**G** 20

**H** 19

**J** 21

**28** Diane worked 18 hours each week during the summer. She worked a total of 8 weeks and earned \$9 an hour. How much money did Diane earn during the summer?

**F** \$306

**G** \$1,296

**H** \$156

**J** \$1,386

(5) ALGEBRAIC REASONING. THE STUDENT APPLIES MATHEMATICAL PROCESS STANDARDS TO DEVELOP CONCEPTS OF EXPRESSIONS AND EQUATIONS. THE STUDENT IS EXPECTED TO:

(A) represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity;

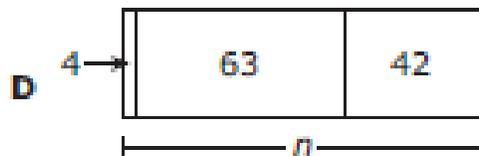
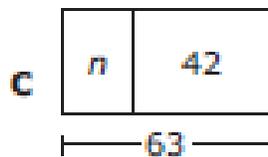
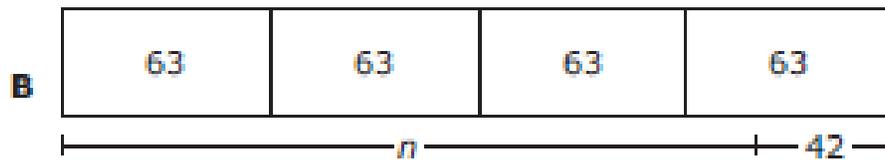
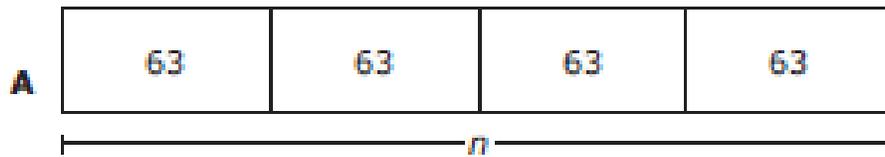
(B) represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence;

(C) use models to determine the formulas for the perimeter of a rectangle ( $l + w + l + w$  or  $2l + 2w$ ), including the special form for perimeter of a square ( $4s$ ) and the area of a rectangle ( $l \times w$ ); and

(D) solve problems related to perimeter and area of rectangles where dimensions are whole numbers.

# 4.5a: Readiness Standard

- 12 Madeline has 4 rolls of tape. Each roll contains 63 inches of tape. Madeline used 42 inches of tape for a project. Which diagram shows a way to find  $n$ , the number of inches of tape that Madeline has left?



- 10 A factory makes 400 refrigerators every day. The factory makes 125 more stoves per day than refrigerators. Which equation can be used to find  $x$ , the total number of refrigerators and stoves the factory makes in one day?

F  $x = 400 + 400 + 125$

G  $x = 400 + 125$

H  $x = 400 + 400 - 125$

J  $x = 400 - 125$

# 4.5a: Readiness Standard, cont.

21 Mark had 45 football cards. Josh had twice as many football cards as Mark. Josh then bought 5 more football cards. Which equation can be used to find  $f$ , the number of football cards Josh has now?

A  $2 \times 45 + 5 = f$

B  $2 \times 45 - 5 = f$

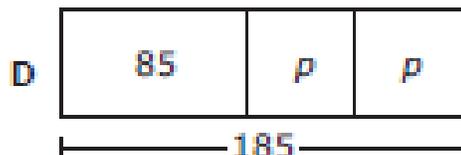
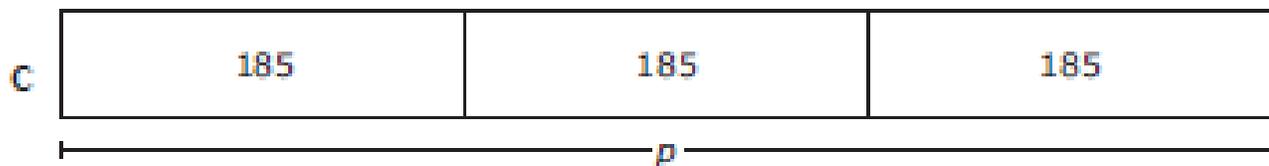
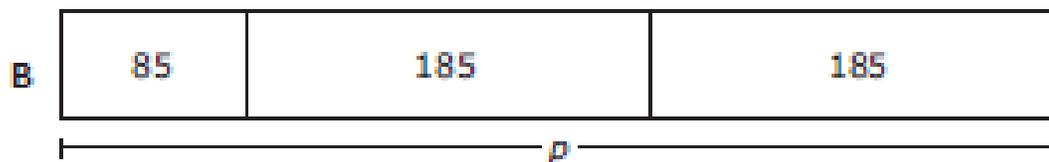
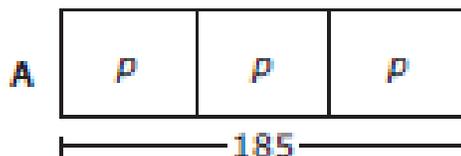
C  $2 + 45 \times 5 = f$

D  $2 + 45 + 5 = f$

37 Sabra read a total of 185 pages in three days.

- On the first day, she read 85 pages.
- On the second and third days, she read the same number of pages.

Which diagram shows a way to find  $p$ , the number of pages Sabra read on the third day?



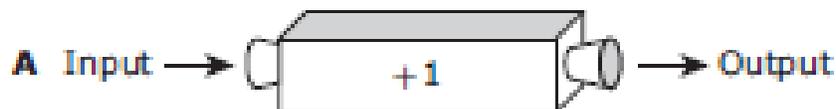
# 4.5b: Readiness Standard

- 13** The table shows a relationship between the input numbers and the output numbers generated by a number machine.

Number Machine

Input	Output
1	79
2	80
3	81
4	82

Which number machine shows the same relationship as the one shown in the table?



# 4.5b: Readiness Standard

24 A number pattern begins with the values shown.

8, 16, 24, 32, ...

Which table correctly represents the relationship between the position of a number in the pattern and the value of that number?

F

Position	Numerical Expression	Value
1	$1 + 8$	9
2	$2 + 8$	10
3	$3 + 8$	11
4	$4 + 8$	12

G

Position	Numerical Expression	Value
8	$8 + 0$	8
16	$16 + 0$	16
24	$24 + 0$	24
32	$32 + 0$	32

H

Position	Numerical Expression	Value
1	$1 \times 8$	8
2	$2 \times 8$	16
3	$3 \times 8$	24
4	$4 \times 8$	32

J

Position	Numerical Expression	Value
8	$8 \times 1$	8
16	$16 \times 1$	16
24	$24 \times 1$	24
32	$32 \times 1$	32

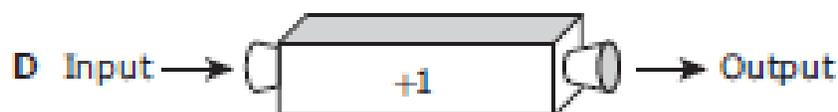
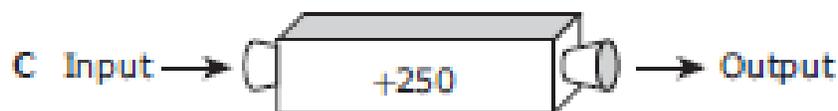
## 4.5b: Readiness Standard, CONT.

- 47 The table shows a relationship between the input numbers and the output numbers generated by a number machine.

Number Machine

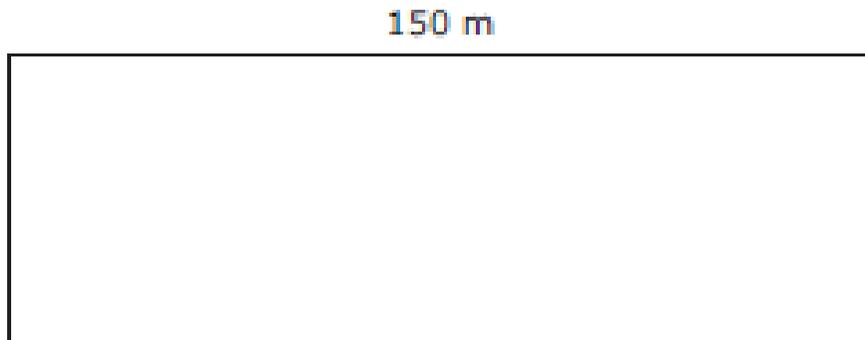
Input	Output
1	251
2	252
3	253
4	254

Which number machine shows the same relationship as the one shown in the table?



# 4.5d: Readiness Standard

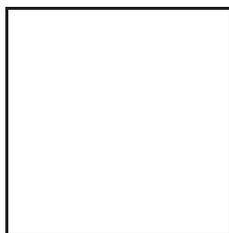
- 14 The model shows a rectangular field with a length of 150 m. The perimeter of the field is 400 m.



What is the width of the field in meters?

- A 250 m
- B 100 m
- C 125 m
- D 50 m

- 8 Use the ruler provided to measure the length and width of each rectangle to the nearest centimeter.



What is the difference between the perimeters of these rectangles in centimeters?

- F 3 cm, because  $6 - 3 = 3$
- G 2 cm, because  $8 - 6 = 2$
- H 4 cm, because  $16 - 12 = 4$
- J 1 cm, because  $9 - 8 = 1$



(6) GEOMETRY AND MEASUREMENT. THE STUDENT APPLIES MATHEMATICAL PROCESS STANDARDS TO ANALYZE GEOMETRIC ATTRIBUTES IN ORDER TO DEVELOP GENERALIZATIONS ABOUT THEIR PROPERTIES. THE STUDENT IS EXPECTED TO:

(A) identify points, lines, line segments, rays, angles, and perpendicular and parallel lines;

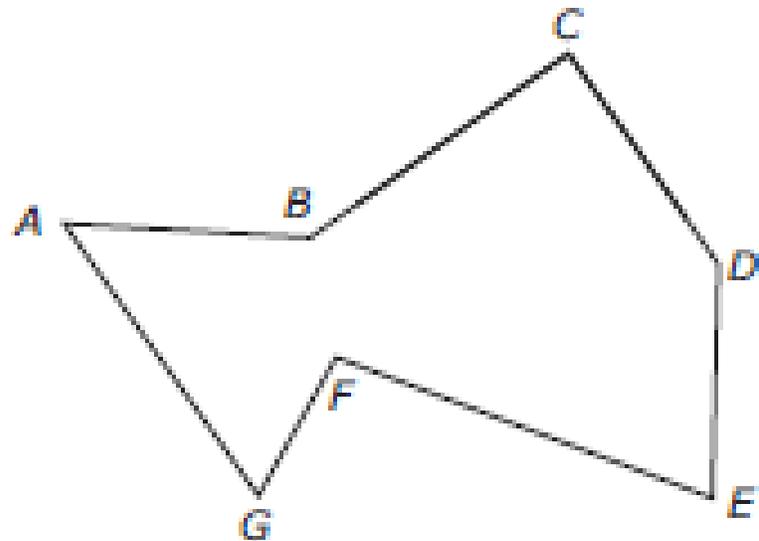
(B) identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure;

(C) apply knowledge of right angles to identify acute, right, and obtuse triangles, and

(D) classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.

4.6a

40 A figure is shown below.



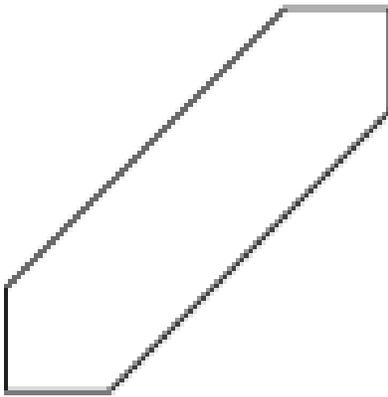
Which two line segments appear to be perpendicular?

- F Line segments  $AG$  and  $CD$
- G Line segments  $BC$  and  $CD$
- H Line segments  $DE$  and  $EF$
- J Line segments  $AG$  and  $FG$

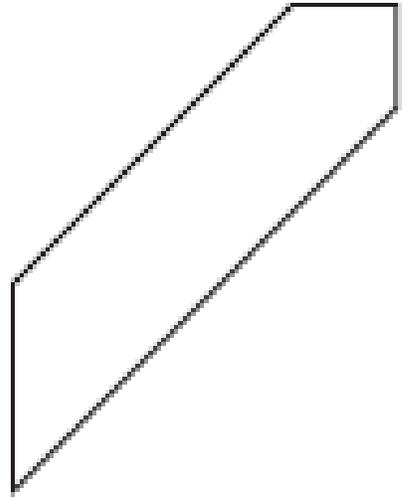
# 4.6b

11 Which figure appears to have exactly 1 line of symmetry?

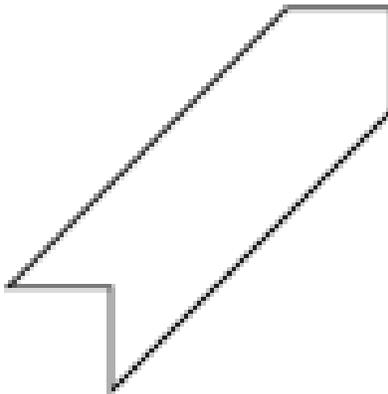
A



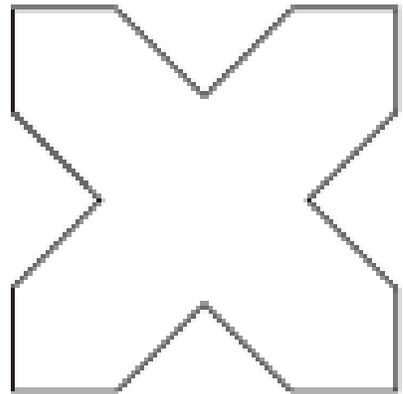
C



B



D



# 4.6C

20 Which triangle appears to be an acute triangle?

F



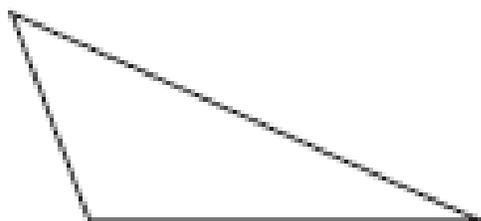
G



H



J



# 4.6d: READINESS STANDARD

15 Which figure **cannot** have parallel line segments?

- A Square
- B Pentagon
- C Triangle
- D Trapezoid

14 Liza drew a figure on the front of her notebook that has two obtuse angles. Which figure could be the one Liza drew?

- F Rectangle
- G Obtuse triangle
- H Parallelogram
- J Right triangle

43 Four figures are shown.

Figure P



Figure Q

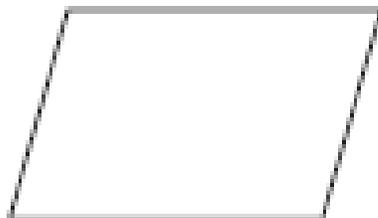
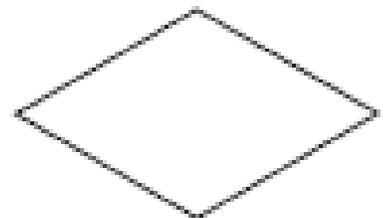


Figure R



Figure S



Which figures appear to be rectangles?

- A Figures Q and S
- B Figures R and S
- C Figures P and R
- D Figures P and Q

(7) GEOMETRY AND MEASUREMENT. THE STUDENT APPLIES MATHEMATICAL PROCESS STANDARDS TO SOLVE PROBLEMS INVOLVING ANGLES LESS THAN OR EQUAL TO 180 DEGREES. THE STUDENT IS EXPECTED TO:

(A) illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers;

(B) illustrate degrees as the units used to measure an angle, where  $1/360$  of any circle is one degree and an angle that "cuts"  $n/360$  out of any circle whose center is at the angle's vertex has a measure of  $n$  degrees. Angle measures are limited to whole numbers;

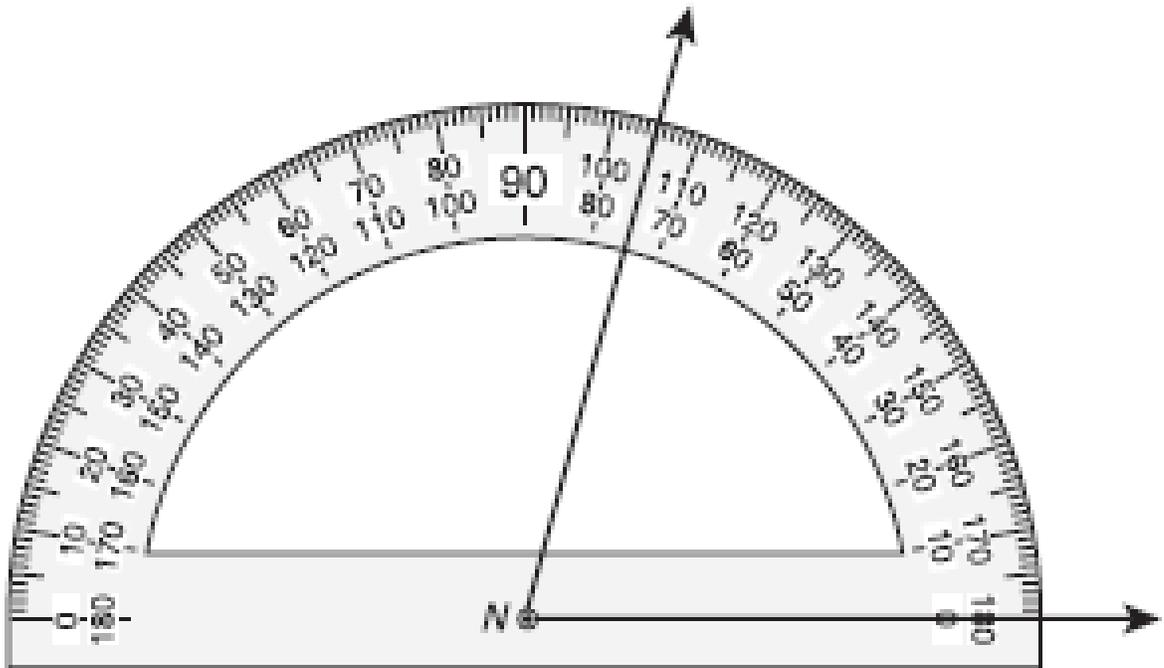
(C) determine the approximate measures of angles in degrees to the nearest whole number using a protractor;

(D) draw an angle with a given measure, and

(E) determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures

# 4.7C: READINESS STANDARD

16 Angle  $N$  is shown on this protractor.

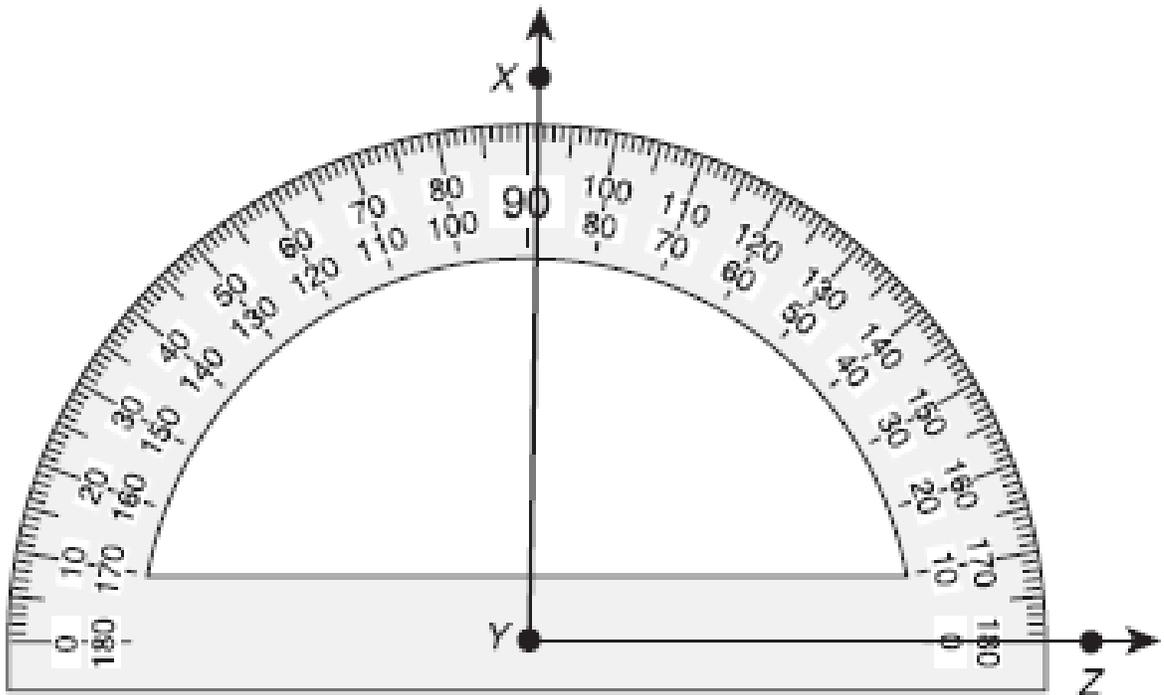


What is the measure of angle  $N$  to the nearest degree?

- A  $75^\circ$
- B  $105^\circ$
- C  $80^\circ$
- D  $180^\circ$

# 4.7C: Readiness Standard

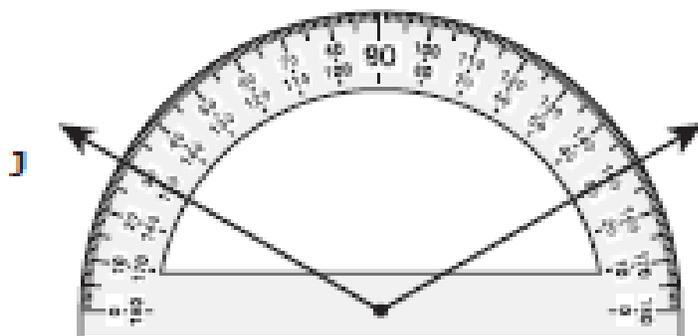
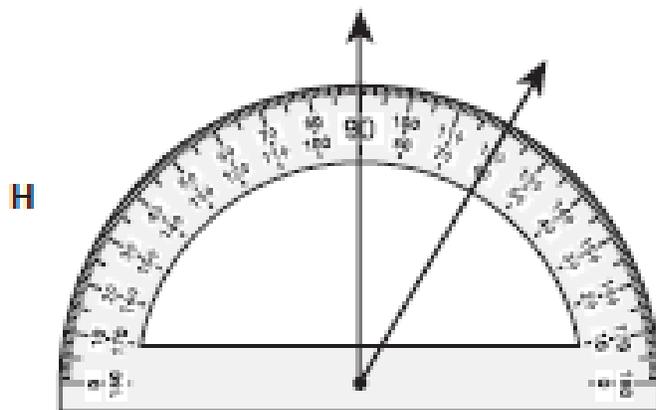
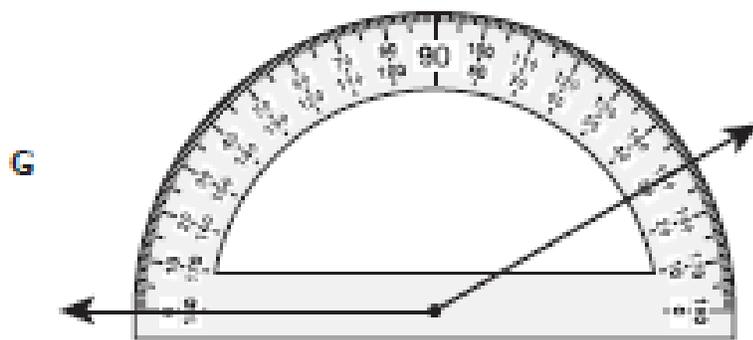
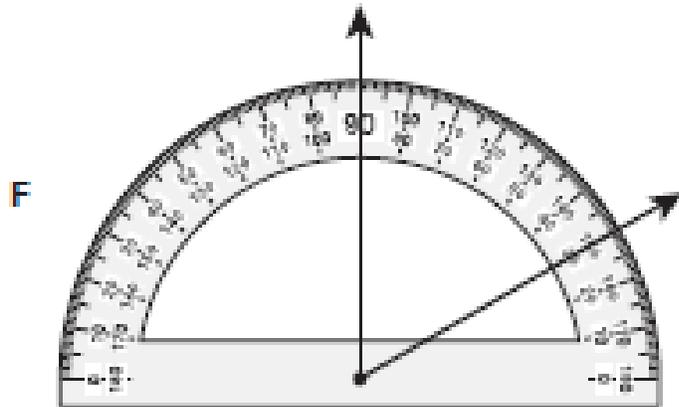
23 What is the measure of angle  $XYZ$  to the nearest degree?



- A  $180^\circ$
- B  $109^\circ$
- C  $91^\circ$
- D  $89^\circ$

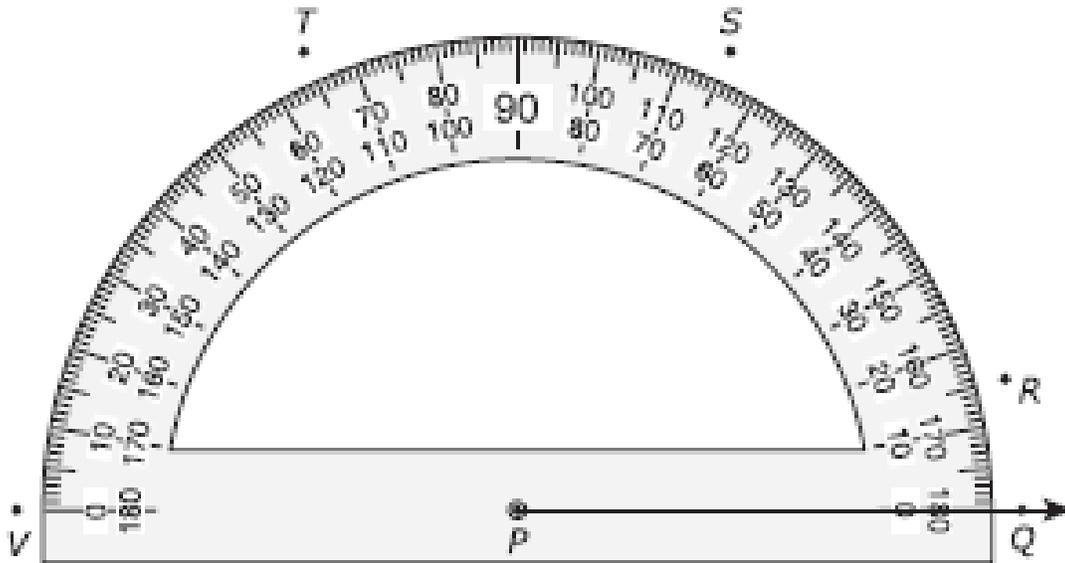
# 4.7C: Readiness Standard, CONT.

46 Which angle has a measure closest to  $30^\circ$ ?



# 4.7d

- 17 Frank is using a protractor to construct an angle that measures  $65^\circ$ . First he draws ray  $PQ$ , as shown on the protractor.

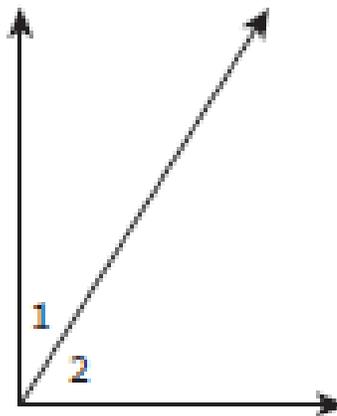


To complete the  $65^\circ$  angle, Frank should draw another ray that starts at point  $P$  and passes through —

- A point  $R$
- B point  $S$
- C point  $T$
- D point  $V$

4.70

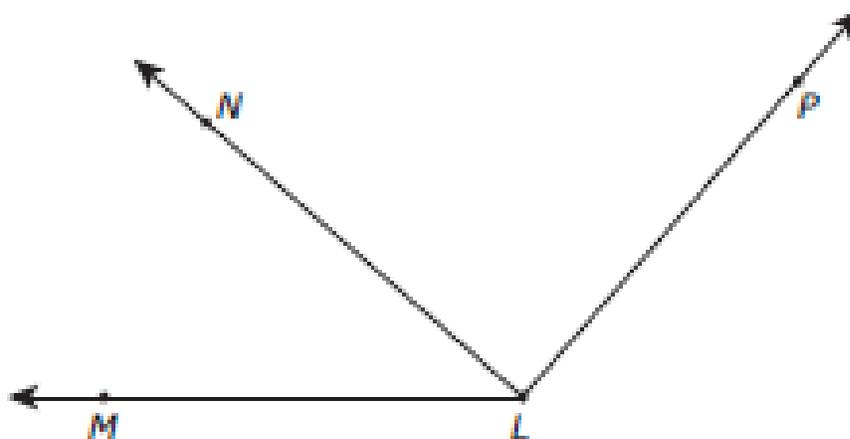
18 Angle 1 and angle 2 form a right angle.



The measure of angle 1 is  $32^\circ$ . What is the measure of angle 2?

- A  $32^\circ$
- B  $90^\circ$
- C  $58^\circ$
- D  $62^\circ$

3 Angle  $MLN$  has a measure of  $41^\circ$ . Angle  $NLP$  is a right angle.



What is the measure of angle  $MLP$ ?

- A  $82^\circ$
- B  $49^\circ$
- C  $180^\circ$
- D  $131^\circ$

(8) GEOMETRY AND MEASUREMENT. THE STUDENT APPLIES MATHEMATICAL PROCESS STANDARDS TO SELECT APPROPRIATE CUSTOMARY AND METRIC UNITS, STRATEGIES, AND TOOLS TO SOLVE PROBLEMS INVOLVING MEASUREMENT. THE STUDENT IS EXPECTED TO

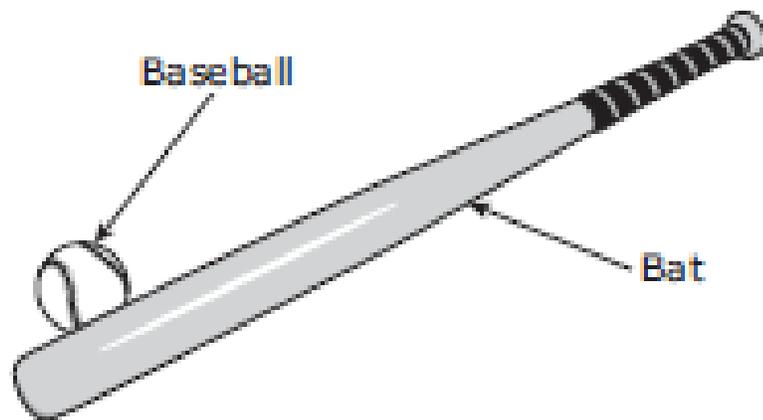
(A) identify relative sizes of measurement units within the customary and metric systems;

(B) convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table; and

(C) solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate.

4.8a

35 Garrett has a baseball and a bat like the ones shown in the picture.



Which measurement best describes the length of the bat?

- A 35 in.
- B 35 m
- C 35 ft
- D 35 mm

# 4.8b

26 The distance between Henry's house and his school is 648 feet. How many yards are equivalent to 648 feet?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

			.		
0	0	0		0	0
1	1	1		1	1
2	2	2		2	2
3	3	3		3	3
4	4	4		4	4
5	5	5		5	5
6	6	6		6	6
7	7	7		7	7
8	8	8		8	8
9	9	9		9	9

# 4.8C: READINESS STANDARD

- 19 Vivian had a \$5 bill, 3 quarters, 2 dimes, and 5 nickels. She paid for a poster that cost \$5.36. How much money does she have left?
- A \$1.16
  - B \$0.84
  - C \$6.20
  - D \$0.04
- 19 A geyser is an underground hot spring that shoots water and steam into the air. At Yellowstone National Park there is a geyser that erupts once every 44 to 125 minutes. If the geyser erupted one day at 1:04 P.M., at which time could the geyser erupt next?
- A 1:44 P.M.
  - B 3:29 P.M.
  - C 3:05 P.M.
  - D 1:25 P.M.
- 38 Tyra opened a new bag of birdseed and filled 3 bird feeders. She put 2,500 grams of birdseed into each feeder. There were 1,500 grams of birdseed left in the bag. What was the mass of the bag of birdseed in kilograms before Tyra opened it?
- F 4 kg
  - G 4,000 kg
  - H 9 kg
  - J 9,000 kg

(9) data analysis. the student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. the student is expected to

(A) represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions; and

(B) solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot

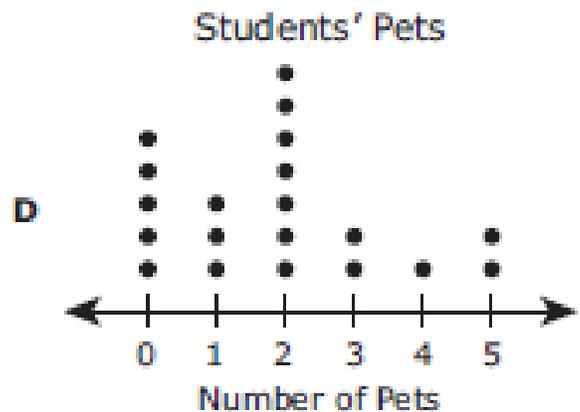
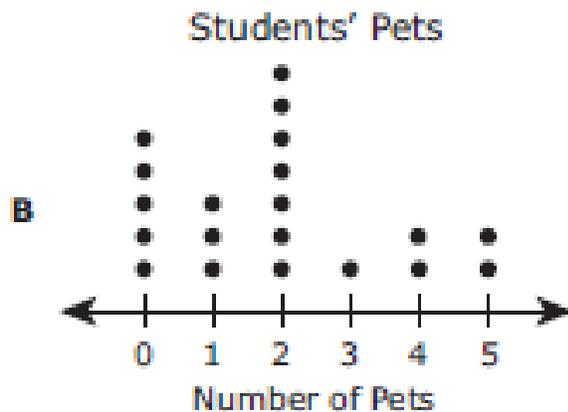
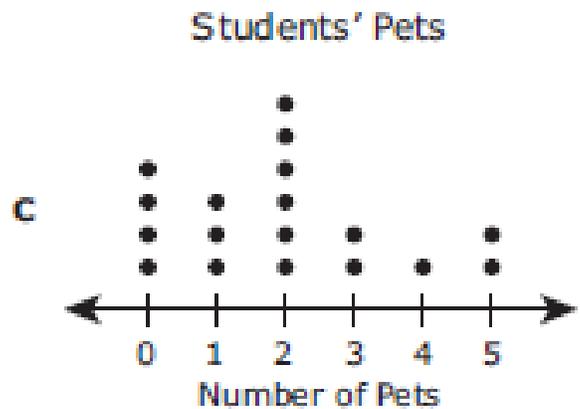
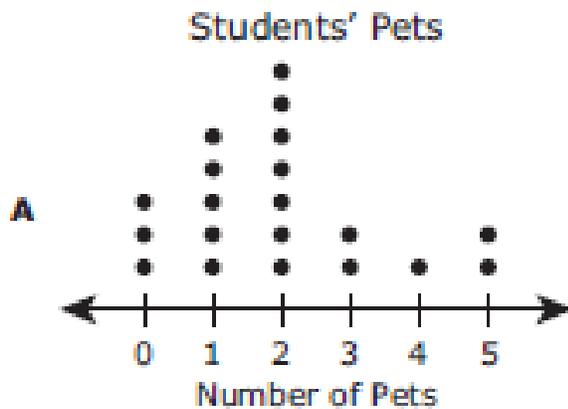
# 4.9a: Readiness Standard

20 The table shows the number of pets that each student in Mrs. Morris's class owns.

Students' Pets

Number of Pets	Frequency
0	IV
1	III
2	IV II
3	II
4	I
5	II

Which dot plot represents the data in the table?

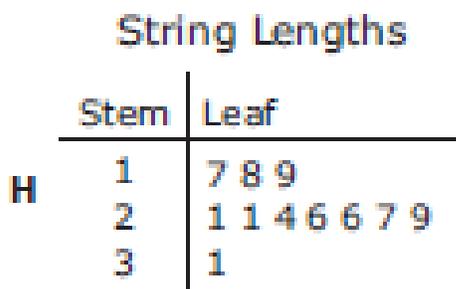
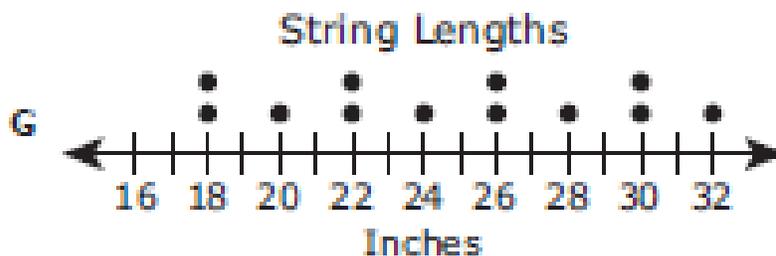
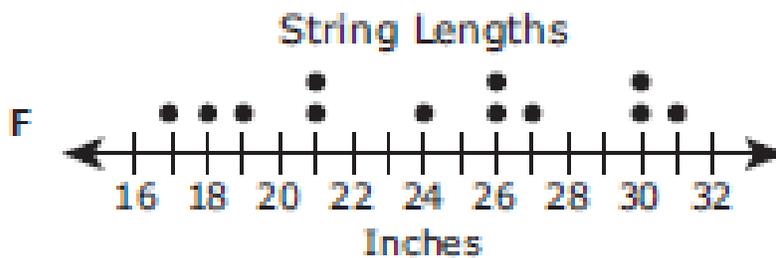


# 4.9a: Readiness Standard

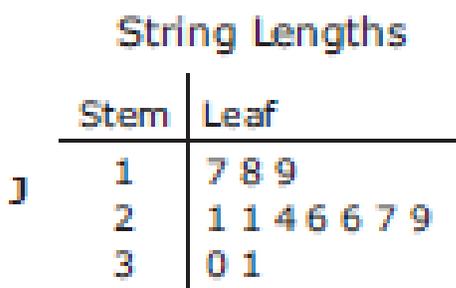
4 The list shows the lengths of twelve strings in inches.

26, 30, 19, 21, 24, 26, 18, 31, 27, 21, 17, 29

Which plot represents the data in the list?



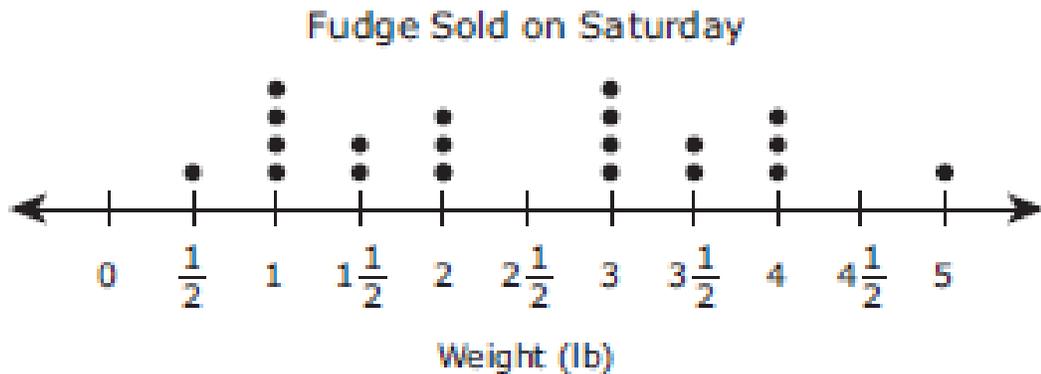
1|8 means 18 inches.



1|8 means 18 inches.

# 4.9a: Readiness Standard, cont.

- 41 A candy store sells fudge by the pound. The dot plot shows the number of customers who bought different numbers of pounds of fudge on Saturday.



Which frequency table represents the same data shown on the dot plot?

**Fudge Sold on Saturday**

**A**

Weight (lb)	$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5
Tally	I	III	II	III		III	II	III		I

**Fudge Sold on Saturday**

**B**

Weight (lb)	1	4	2	3	0	4	2	3	0	1
Tally	I	III	II	III		III	II	III		I

**Fudge Sold on Saturday**

**C**

Weight (lb)	$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5
Tally	I	III	II	III	I	III	II	III	I	I

**Fudge Sold on Saturday**

**D**

Weight (lb)	$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5
Tally	I	III	II	III	III	II	III	I		

4.9b

- 21 Karnika recorded the number of minutes she practiced volleyball each week for several weeks. She used a stem and leaf plot to organize the data.

Volleyball Practice Time

Stem	Leaf
14	0 2 2
15	5 5
16	0

14|2 means 142 minutes.

Based on the data, what is the amount of time in minutes Karnika practiced volleyball?

- A 894 min
- B 597 min
- C 594 min
- D 1,224 min

4.9b

- 13 The frequency table shows the favorite school lunches of some students. The table is missing the information for the number of students who chose a hamburger.

Favorite School Lunches

Lunch Choice	Tally	Frequency
Pizza	      	32
Hamburger		
Chicken	 	13

The number of students who chose a hamburger is half the number of students who chose pizza. How many students chose a hamburger or chicken as their favorite school lunch?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

			.		
0	0	0		0	0
1	1	1		1	1
2	2	2		2	2
3	3	3		3	3
4	4	4		4	4
5	5	5		5	5
6	6	6		6	6
7	7	7		7	7
8	8	8		8	8
9	9	9		9	9

(10) PERSONAL FINANCIAL LITERACY. THE STUDENT APPLIES MATHEMATICAL PROCESS STANDARDS TO MANAGE ONE'S FINANCIAL RESOURCES EFFECTIVELY FOR LIFETIME FINANCIAL SECURITY. THE STUDENT IS EXPECTED TO:

(A) distinguish between fixed and variable expenses;

(B) calculate profit in a given situation;

(C) compare the advantages and disadvantages of various savings options;

(D) describe how to allocate a weekly allowance among spending, saving, including for college, and sharing; and

(E) describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.

# 4.10a

- 29 Some people borrow money to buy cars. They have to make car payments to pay back the money they borrowed. What kind of expenses are most car payments?
- A Variable expenses, because the amount usually changes every month
  - B Variable expenses, because the payment is not due every month
  - C Fixed expenses, because the amount is usually the same every month
  - D Fixed expenses, because the car is usually paid for after one month

## 4.10b

**22** Raina sold pens decorated with fancy tape.

- Raina's expenses were \$11.57 for supplies.
- Raina sold 12 pens for \$2 each.

What was Raina's profit?

- A** \$24.00
- B** \$35.57
- C** \$12.43
- D** \$2.43

**25** Gwen bought an old table. She repaired it and painted it so that it looked new. Then she sold the table. Gwen made this list about what she did.

- Price paid for old table: \$10.00
- Cost to repair: \$5.00
- Cost to paint: \$7.50
- Selling price: \$50.00

What was Gwen's profit from selling the table?

- A** \$27.50
- B** \$50.00
- C** \$22.50
- D** \$40.00

4.10e

- 23 Which of these services is **not** provided by a financial institution such as a bank or credit union?
- A Informing customers of the amount of money in their accounts
  - B Informing customers of how the money in their accounts must be spent
  - C Providing cash when customers make withdrawals from their accounts
  - D Providing loans to customers that can be paid back over time with interest