

Example Items

Mathematics 6

Pre-AP

Mathematics 6 Pre-AP Example Items are a **representative set** of items for the ACP. Teachers may use this set of items along with the test blueprint as guides to prepare students for the ACP. On the last page, the correct answer, content SE and SE justification are listed for each item.

*The specific part of an SE that an Example Item measures is **NOT** necessarily the only part of the SE that is assessed on the ACP.* None of these Example Items will appear on the ACP.

Teachers may provide feedback regarding Example Items.

(1) Download the [Example Feedback Form](#) and email it. The form is located on the homepage of Assessment.dallasisd.org.

OR

(2) To submit directly, click “Example Feedback” **after** you login to the [Assessment website](#).

First Semester
2017–2018
Code #: 1161

STAAR GRADE 6 MATHEMATICS REFERENCE MATERIALS



AREA

Triangle

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

Rectangle or parallelogram

$$A = bh$$

Trapezoid

$$A = \frac{1}{2}(b_1 + b_2)h$$

VOLUME

Rectangular prism

$$V = Bh$$

Inches

0

1

2

3

4

5

6

7

8

STAAR GRADE 6 MATHEMATICS REFERENCE MATERIALS

LENGTH

Customary

1 mile (mi) = 1,760 yards (yd)

1 yard (yd) = 3 feet (ft)

1 foot (ft) = 12 inches (in.)

Metric

1 kilometer (km) = 1,000 meters (m)

1 meter (m) = 100 centimeters (cm)

1 centimeter (cm) = 10 millimeters (mm)

VOLUME AND CAPACITY

Customary

1 gallon (gal) = 4 quarts (qt)

1 quart (qt) = 2 pints (pt)

1 pint (pt) = 2 cups (c)

1 cup (c) = 8 fluid ounces (fl oz)

Metric

1 liter (L) = 1,000 milliliters (mL)

WEIGHT AND MASS

Customary

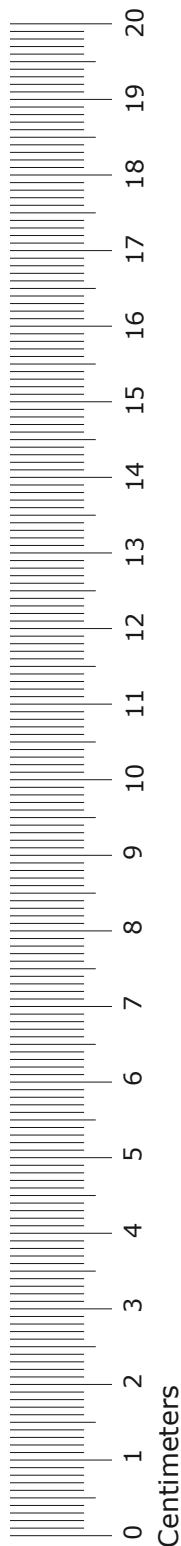
1 ton (T) = 2,000 pounds (lb)

1 pound (lb) = 16 ounces (oz)

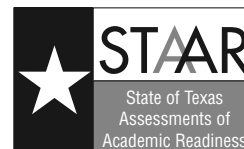
Metric

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)



STAAR GRADE 7 MATHEMATICS REFERENCE MATERIALS



LINEAR EQUATIONS

Slope-intercept form

$$y = mx + b$$

Constant of proportionality

$$k = \frac{y}{x}$$

CIRCUMFERENCE

Circle

$$C = 2\pi r$$

or

$$C = \pi d$$

AREA

Triangle

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

Rectangle or parallelogram

$$A = bh$$

Trapezoid

$$A = \frac{1}{2}(b_1 + b_2)h$$

Circle

$$A = \pi r^2$$

VOLUME

Prism

$$V = Bh$$

Pyramid

$$V = \frac{1}{3}Bh$$

ADDITIONAL INFORMATION

Pi

$$\pi \approx 3.14$$

or

$$\pi \approx \frac{22}{7}$$

Distance

$$d = rt$$

Simple interest

$$I = Prt$$

Compound interest

$$A = P(1 + r)^t$$

Inches

0

1

2

3

4

5

6

7

8

STAAR GRADE 7 MATHEMATICS REFERENCE MATERIALS

LENGTH

Customary

1 mile (mi) = 1,760 yards (yd)

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1 meter (m) = 100 centimeters (cm)

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VOLUME AND CAPACITY

Customary

1 gallon (gal) = 4 quarts (qt)

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Metric

1 liter (L) = 1,000 milliliters (mL)

WEIGHT AND MASS

Customary

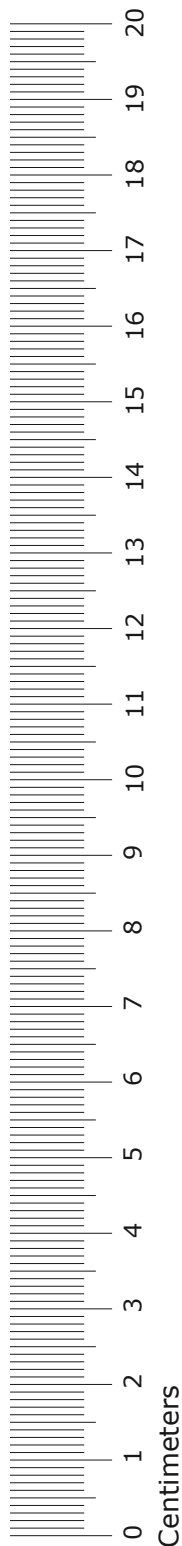
1 ton (T) = 2,000 pounds (lb)

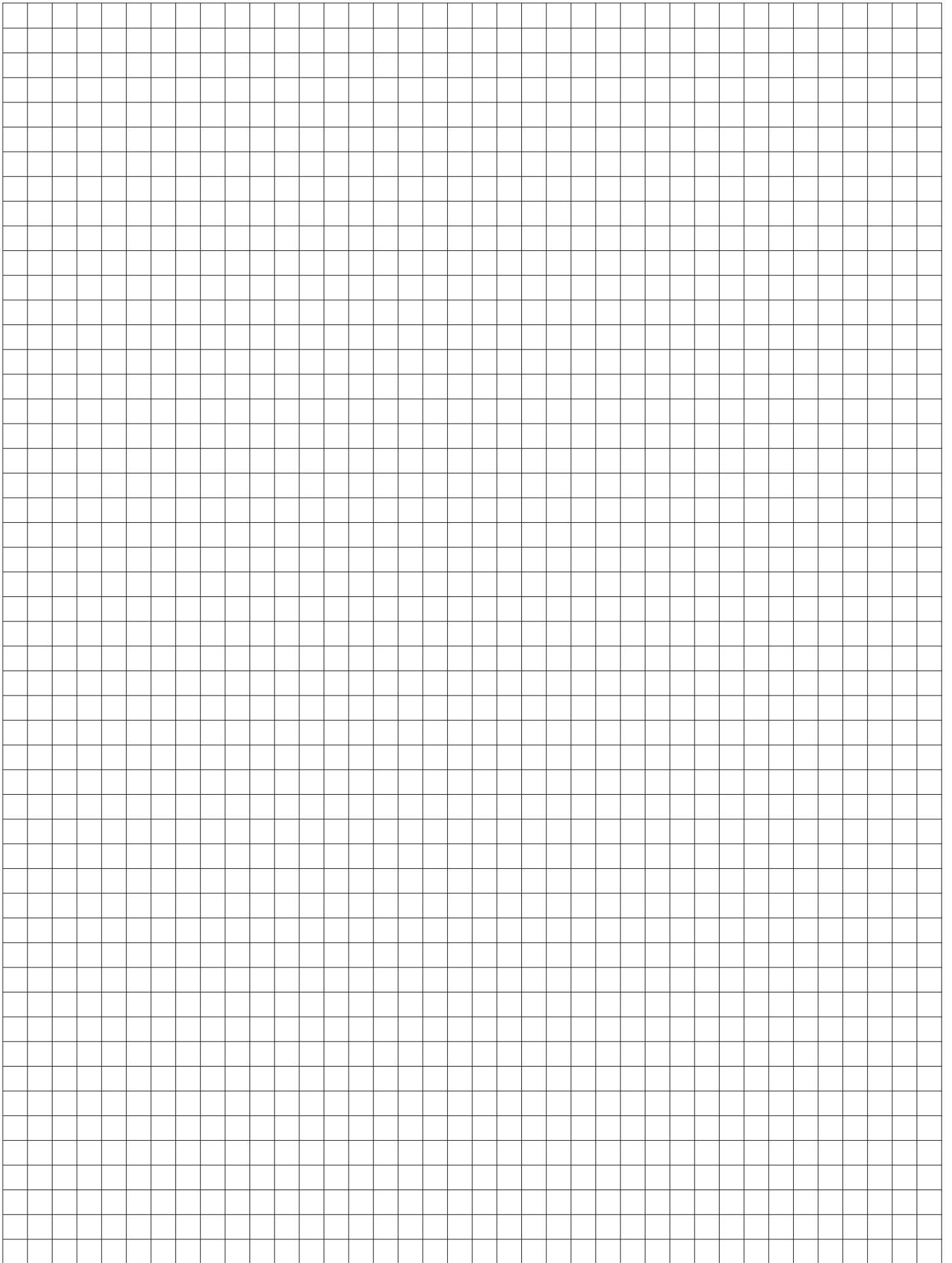
1 pound (lb) = 16 ounces (oz)

Metric

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)





EXAMPLE ITEMS Mathematics 6 Pre-AP, Sem 1

1 On the evening news, the weather man said that there was a 60% chance it would snow tomorrow. Which value is equivalent to 60%?

A $\frac{2}{3}$

B $\frac{3}{5}$

C 0.06

D 60

2 If Joel worked 8 hours and earned \$60.00, which equation represents E , Joel's earnings, for working h hours?

A $E = 7.50h$

B $E = \frac{7.50}{h}$

C $E = h + 7.50$

D $E = h - 7.50$

3 Sally sold \$25,000 worth of furniture in 10 days. At this rate, how many dollars worth of furniture will Sally sell in 15 days?

A \$3,750

B \$25,025

C \$37,500

D \$375,000

EXAMPLE ITEMS Mathematics 6 Pre-AP, Sem 1

- 4 Jaxon bought $10\frac{2}{3}$ pounds of apples at the Farmer's Market. If the apples cost \$1.80 per pound, how much did Jaxon pay for the apples?

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

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

- 5 NaPaul went to Corpus Cristi on vacation. While driving, he travelled at a constant rate of speed. The table shows how far NaPaul had traveled at various times during his trip.

NaPaul's Vacation

Number of Hours	Number of Miles Traveled
2	126
5	315
9	567
12	756

Based on the data in the table, what is the constant rate of change for this situation?

- A 38 mph
- B 63 mph
- C 70 mph
- D 95 mph

EXAMPLE ITEMS Mathematics 6 Pre-AP, Sem 1

- 6 Which statement is true for the answer of $17 \times \frac{4}{7}$?
- A The answer will be less than 17 because $\frac{4}{7}$ is less than 1.
- B The answer will be less than 17 because $\frac{4}{7}$ is greater than 1.
- C The answer will be greater than 17 because $\frac{4}{7}$ is less than 1.
- D The answer will be greater than 17 because $\frac{4}{7}$ is greater than 1.

- 7 During Jacob's fitness test, he did 75 push-ups in 3 minutes. At this rate, how many push-ups could Jacob do in 8 minutes?

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

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

- 8 The cost of admission to the safari exhibit was increased from \$12 to \$15. By what percentage did the cost of admission increase?
- A 3%
- B 20%
- C 25%
- D 75%

EXAMPLE ITEMS Mathematics 6 Pre-AP, Sem 1

9

A helium balloon expands in the heat and shrinks when the temperature decreases. Ruby measured the change in the circumference of a balloon over five days. She recorded the results in the table shown.

Day	Change (in inches)
1	$\frac{1}{8}$
2	-0.66
3	$-\frac{1}{2}$
4	0.25
5	-0.58

Which set shows the changes in the circumference of the balloon from least to greatest?

- A $-0.66, -0.58, -\frac{1}{2}, 0.25, \frac{1}{8}$
- B $-0.66, -0.58, -\frac{1}{2}, \frac{1}{8}, 0.25$
- C $0.25, \frac{1}{8}, -\frac{1}{2}, -0.58, -0.66$
- D $\frac{1}{8}, 0.25, -\frac{1}{2}, -0.58, -0.66$

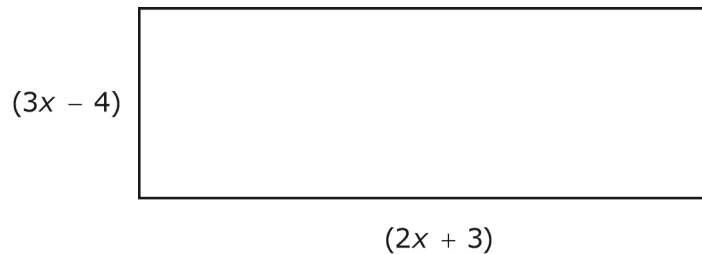
10

In a candy bar, 12% of the calories come from fat. If there are 240 calories in the candy bar, how many calories come from fat?

- A 5.0
- B 20.0
- C 28.8
- D 211.2

EXAMPLE ITEMS Mathematics 6 Pre-AP, Sem 1

- 11** The figure shown is a rectangle.



The expression $2(3x - 4) + 2(2x + 3)$ represents the perimeter of the rectangle. Which expression is equivalent to the perimeter?

- A** $10x + 14$
B $10x + 7$
C $10x - 1$
D $10x - 2$
- 12** If $\frac{7}{13}n > \frac{7}{13}$, which number makes the inequality true?

- A** $\frac{7}{13}$
B $\frac{13}{7}$
C $\frac{7}{7}$
D $\frac{13}{13}$

- 13** What is the prime factorization of 600?

- A** $2^3 \cdot 3 \cdot 5^2$
B $2^2 \cdot 5^2 \cdot 6$
C $2 \cdot 3 \cdot 10^2$
D $6 \cdot 10^2$

EXAMPLE ITEMS Mathematics 6 Pre-AP, Sem 1

- 14** Lavasha caught six pigeons for every turtle when she played Pocket Monster Walk. If she caught 102 pigeons, how many turtles did Lavasha catch?

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

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

- 15** The percent of money Wyatt has saved to purchase a \$95 skateboard is represented in the diagram.



How much more money must Wyatt save before he has enough to purchase the skateboard?

- A** \$3.80
- B** \$5.70
- C** \$38.00
- D** \$57.00

EXAMPLE ITEMS Mathematics 6 Pre-AP, Sem 1

16 Serenity spent $\frac{2}{5}$ of her birthday money at the amusement park. What percent of her birthday money did Serenity spend at the amusement park?

- A** 20%
- B** 25%
- C** 40%
- D** 50%

17 Which pair of expressions are equivalent?

- A** $(16 \div x) + 4$ and $4 + (16 \div x)$
- B** $9 \div (3 + x)$ and $9 \div 3 + 9 \div x$
- C** $(x - 7) \cdot 18$ and $x - (7 \cdot 18)$
- D** $12 \cdot (5 - x)$ and $12 \cdot (x - 5)$

18 Toddrick eats one-fourth of a lemon cake. Roberta eats one-third of the same cake. La'Tasha comes home from work and eats one-sixth of the same cake. How much of the cake has been eaten?

- A** $\frac{3}{13}$
- B** $\frac{1}{13}$
- C** $\frac{3}{4}$
- D** $\frac{1}{4}$

EXAMPLE ITEMS Mathematics 6 Pre-AP Key, Sem 1

Item#	Key	SE	SE Justification
1	B	6.4G	Generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money.
2	A	6.9A	Write one-variable, one-step equations and inequalities to represent constraints or conditions within problems.
3	C	6.4B	Apply qualitative and quantitative reasoning to solve prediction and comparison real-world problems involving ratios and rates.
4	19.20	6.3E	Multiply and divide positive rational numbers fluently
5	B	7.4A	Represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$.
6	A	6.3B	Determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one.
7	200	6.4B	Apply quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates.
8	C	7.4D	Solve problems involving ratios, rates, and percentages, including multi-step problems involving percent increase.
9	B	6.2D	Order a set of rational numbers arising from mathematical and real-world contexts.
10	C	6.5B	Solve real-world problems to find the part given the whole and the percent.
11	D	6.7D	Generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.
12	B	6.3B	Determine, without computation, whether a quantity is increased when multiplied by a fraction, including values greater than or less than one.
13	A	6.7A	Generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization.
14	17	6.10A	Model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.
15	D	6.5B	Solve real-world problems finding the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models.
16	C	6.4G	Generate equivalent forms of fractions [and] decimals using real-world problems, including problems that involve money.
17	A	6.7D	Generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.
18	C	7.3B	Apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.