8th Grade Algebra 1 STAAR Practice
Week 1

Mastery Machine: **Day 1**

2A

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Directions: Complete this quiz without any assistance other than a calculator. Show work and use test-taking strategies that you will use on the EOC test. After you are done, bring it to a tutor or teacher to grade. If they are busy, place in the "to be graded" box and move on to another quiz.

1)

A cell phone company offers two monthly plans. Subscribers to Plan A pay a monthly fee of $15, and are charged 4 cents for every minute of cell phone usage. Subscribers to the second plan, Plan B, pay a monthly fee of $10, and are charged 5 cents for every minute of cell phone usage. Martha can afford no more than $40 per month for a cell phone plan. Which plan should she choose?

Ⓕ Plan B, because she would get up to 675 minutes of monthly cell phone usage

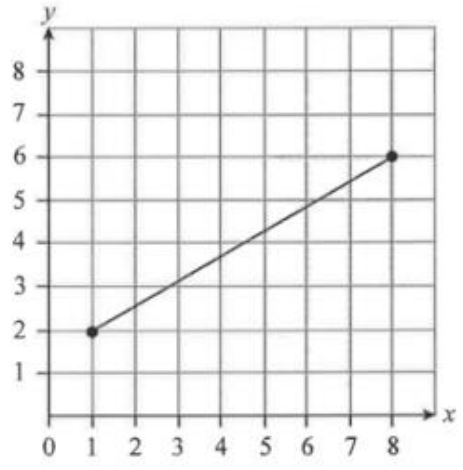
Ⓖ Plan A, because she would get up to 650 minutes of monthly cell phone usage

Ⓗ Plan A, because she would get up to 625 minutes of monthly cell phone usage

Ⓙ Plan B, because she would get up to 600 minutes of monthly cell phone usage

2)

Which of the following shows the domain and range for the relation in the graph?



Ⓐ Domain: $\{8 \le x \le 1\}$
Range: $\{2 \le y \le 6\}$

Ⓑ Domain: $\{1 \le x \le 8\}$
Range: $\{6 \le y \le 2\}$

Ⓒ Domain: $\{8 \le x \le 1\}$
Range: $\{6 \le y \le 2\}$

Ⓓ Domain: $\{1 \le x \le 8\}$
Range: $\{2 \le y \le 6\}$

3)

What is the range of $f(x) = -2x + 5$ with a given domain $\{1, 2, 3, 4\}$?

- A. $\{-1, -3\}$
- B. $\{1, 3\}$
- C. $\{3, 1, -1, -3\}$
- D. all real numbers

4)

A caterer charges a $45 set-up fee and $5 per person served. The number of people served cannot exceed 200. What is a reasonable range for the dependent quantity in this situation?

A) The range is 200 or less
B) The range is 1,045 or less
C) The range is from 45 to 1,045
D) The range is 45 or more

5) A plane can carry a maximum cargo weight of 160,000 pounds. A company uses one of these planes to ship 2,000-pound containers. The total cargo weight is a function of the number of containers in the plane. What is the greatest value in the domain for this situation?

Record your answer and fill in the bubbles on your answer document.

Mastery Machine: **Day 2**

2A

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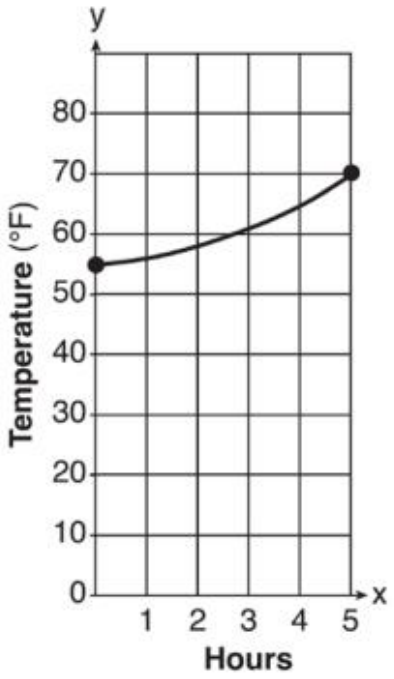
Directions: Complete this quiz without any assistance other than a calculator. Show work and use test-taking strategies that you will use on the EOC test. After you are done, bring it to a tutor or teacher to grade. If they are busy, place in the "to be graded" box and move on to another quiz.

1)

The air temperature in Dallas, Texas, over a 5-hour period is shown in the accompanying graph.



What is the range of this set of data?

1) $0 \le x \le 5$
2) $56 \le x \le 70$
3) $0 \le y \le 80$
4) $56 \le y \le 70$

2)

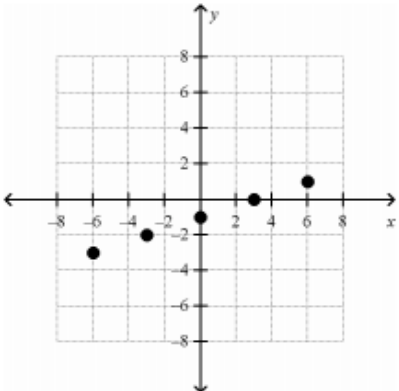
Find the range of $f(x) = -3x - 3$ for the domain $\{-2, 1, 2, 5\}$.

A $\{3, -6, -18\}$
B $\{-6, -9, -18\}$
C $\{3, -6, -9\}$
D $\{3, -6, -9, -18\}$

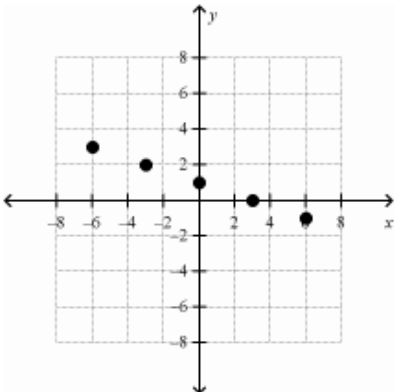
3)

Graph $-x+3y=-3$ for the domain D: {−6, −3, 0, 3, 6}.

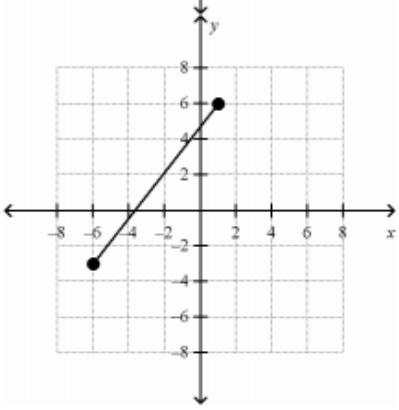
A



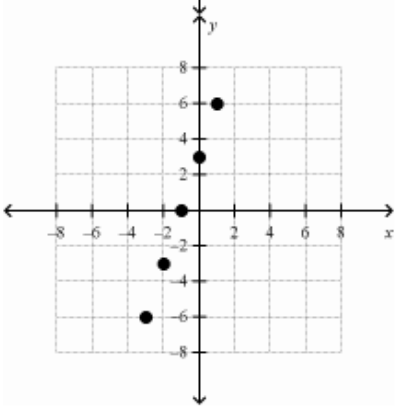
C



B

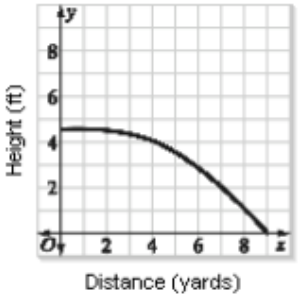


D



4)

This graph shows the height and distance traveled by a tennis ball.



How far does the ball travel before it is a height of 2 ft. above the ground?

F 3 feet **G** 6 feet **H** 7 feet **I** 9 feet

5) The total cost of renting a banquet hall is a function of the number of hours the hall is rented. The owner of the banquet hall charges $85 per half hour up to a maximum of 4 hours plus a $50 cleaning fee. What is the greatest value in the range for this situation?

Record your answer and fill in the bubbles on your answer document.

Mastery Machine: **Day 3**

2A

_____ / 5

Directions: Complete this quiz without any assistance other than a calculator. Show work and use test-taking strategies that you will use on the EOC test. After you are done, bring it to a tutor or teacher to grade. If they are busy, place in the "to be graded" box and move on to another quiz.

1)

What is the domain of the function represented by the list of ordered pairs?

$$\{(0, 2), (-3, 6), (4, 8), (2, 5), (-2, 4)\}$$

A $\{2, 4, 5, 6, 8\}$

B $\{-3, -2, 0, 2, 4\}$

C $\{0, 4, 6, 8\}$

D all real numbers

2)

Give the domain and range of the relation.

x	*y*
3	7
10	21
0	0
−2	−3

F D: {−3, 0, 7, 21}; R: {−2, 0, 3, 10}

G D: {−2, 3, 10}; R: {−3, 7, 21}

H D: {−2, 0, 3, 10}; R: {−3, 0, 7, 21}

I D: {3, 10, −2, 7, 21, −3}; R: {0}

3)

What is the domain and range of the function f ?

$f = \{(-2, 2), (-1, 1), (0, 0), (2, 2)\}$

- A. domain: {0, 1, 2}
  range: {−2, −1, 0, 2}
- B. domain: {−2, −1, 0, 2}
  range: {0, 1, 2}
- C. domain: {−2, −1, 0, 2}
  range: {1, 2}
- D. domain: {0, 1, 2}
  range: {−2, 2}

4)

The total weight of a barbell with plates can be found using the function $w = 25p + 40$, where p is the number of plates placed on the barbell. If there are at least 2 plates but not more than 8 plates on the barbell, what is the range of the function for this situation?

A) $0 < w \leq 240$

B) $\{90, 115, 140, 165, 190, 215, 240\}$

C) $0 < p \leq 8$

D) $\{2, 3, 4, 5, 6, 7, 8\}$

5)

The total cost in dollars to buy uniforms for the players on a volleyball team can be found using the function $c = 34.95u + 6.25$, where u is the number of uniforms bought. If there are at least 8 players but not more than 12 players on the volleyball team, what is the domain of the function for this situation?

A) $0 < u \leq 12$

B) $0 < c \leq 425.65$

C) $\{8, 9, 10, 11, 12\}$

D) $\{285.85, 320.80, 355.75, 390.70, 425.65\}$

Mastery Machine: **Day 4**

2B

Directions: Complete this quiz without any assistance other than a calculator. Show work and use test-taking strategies that you will use on the EOC test. After you are done, bring it to a tutor or teacher to grade. If they are busy, place in the "to be graded" box and move on to another quiz.

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1)

A line has a slope of $^{-}\frac{1}{6}$ and a y-intercept of $^{-}1$. Which of the following is an equation of the line?

Ⓕ $6x + 6y = {}^{-}1$
Ⓖ $x + 6y = {}^{-}1$
Ⓗ $x + 6y = {}^{-}6$
Ⓙ $6x - y = 6$

2)

A line has a slope of $^{-}\frac{2}{11}$ and a y-intercept of $\frac{5}{11}$. Which of the following is an equation of the line?

Ⓐ $11x + 2y = {}^{-}5$
Ⓑ $2x + 5y = 11$
Ⓒ $11x - 2y = 5$
Ⓓ $2x + 11y = 5$

3)

Which equation represents the line that passes through points (5, 4) and ($^{-}5$, 0)?

Ⓕ $y = \frac{4}{5}x + 2$

Ⓖ $y = \frac{5}{2}x - 5$

Ⓗ $y = 5x + 2$

Ⓙ $y = \frac{2}{5}x + 2$

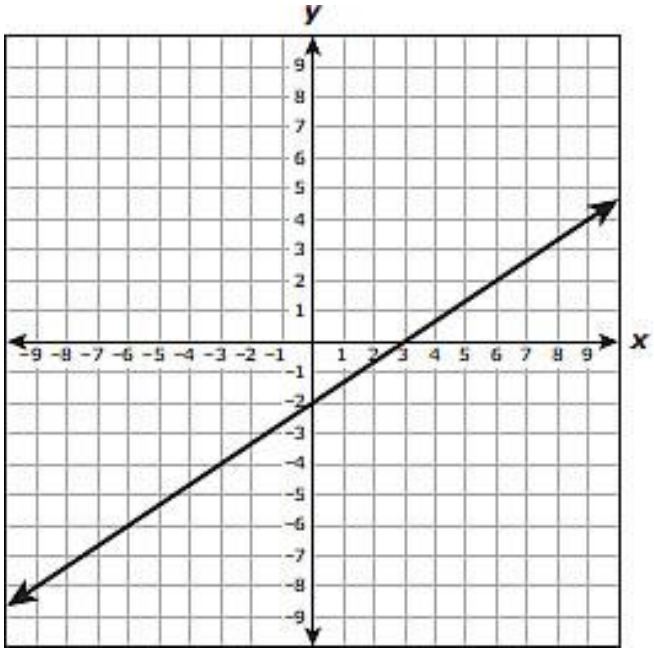
4)

Which equation in standard form has a graph that passes through the point (-4,2)and has a slope of $\frac{9}{2}$?

A) $9x - 2y = 36$
B) $9x - 2y = 26$
C) $9x - 2y = -40$
D) $9x - 2y = -10$

5)

A graph is shown below.



Which of the following equations are represented by the graph?

I. $y = -\frac{3}{2}x - 2$

II. $2x - 3y = 6$

III. $y = (x - 2)(x - 3)$

IV. $y - 2 = \frac{2}{3}(x - 6)$

A) II and IV
B) I and III
C) II and III
D) I and IV

Mastery Machine: **Day 5**

2B

Directions: Complete this quiz without any assistance other than a calculator. Show work and use test-taking strategies that you will use on the EOC test. After you are done, bring it to a tutor or teacher to grade. If they are busy, place in the "to be graded" box and move on to another quiz.

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1)

Which of the following is an equation of the line passing through (2, 5) with $m = -\frac{5}{6}$?

Ⓐ $5x + 6y = 40$
Ⓑ $6x + 5y = -40$
Ⓒ $5x + 6y = -40$
Ⓓ $5x - 6y = 40$

2)

What is the equation of the line that passes through point (4, ⁻6) and has a slope of ⁻3?

Ⓐ $y = -3x + 10$
Ⓑ $y = -3x - 6$
Ⓒ $y = -3x + 6$
Ⓓ $y = -3x + 14$

3)

Which equation represents the line with slope of 2 and y-intercept of ⁻3?

Ⓕ $y = -3x + 2$

Ⓖ $y = -\frac{2}{3}x - 3$

Ⓗ $y = 2x + 3$
Ⓙ $y = 2x - 3$

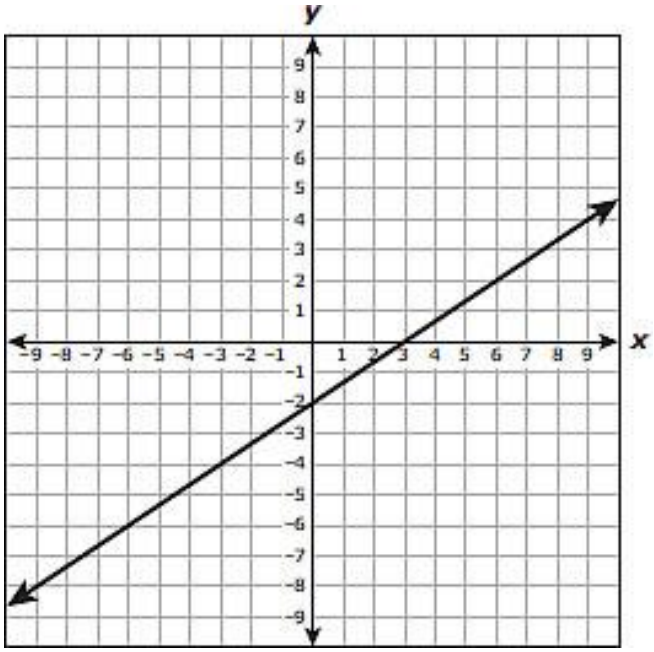
4)

A line has a slope of $-\frac{5}{3}$ and a y-intercept of 6. Which of the following is an equation of the line?

Ⓕ $18x - 3y = 5$
Ⓖ $5x - 3y = -18$
Ⓗ $5x + 3y = 18$
Ⓙ $5x + 3y = -18$

5)

A graph is shown below.



Which of the following equations are represented by the graph?

I. $y = -\frac{3}{2}x - 2$

II. $2x - 3y = 6$

III. $y = (x - 2)(x - 3)$

IV. $y - 2 = \frac{2}{3}(x - 6)$

A) II and IV
B) I and III
C) II and III
D) I and IV