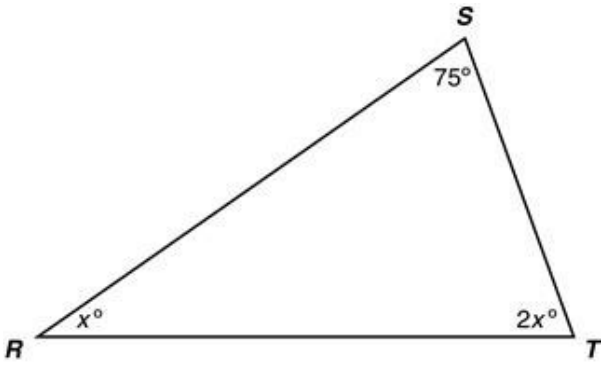
TEST NAME: **Benchmark Q2 18-19 Math 8 - Dec 10 - 11**
TEST ID: **2721671**
GRADE: **08 - Eighth Grade**
SUBJECT: **Mathematics**
TEST CATEGORY: **My Classroom**

Student: _____

Class: _____

Date: _____

1. **Triangle *RST* is shown below.**



What is the measure, in degrees, of $\angle T$?

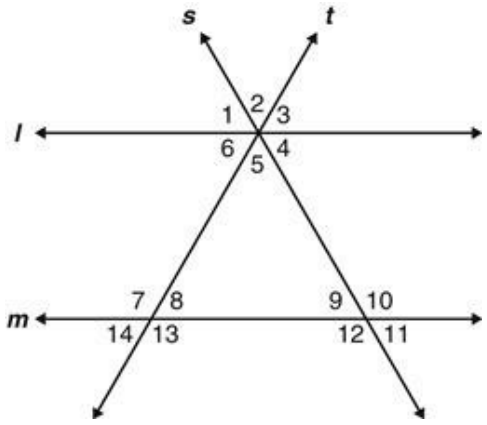
A. 35

B. 60

C. 70

D. 105

2. **Given:** $l \parallel m$ **and lines *s* and *t* are transversals through both *l* and *m*. If** $m\angle 2 = 45°$ **and** $m\angle 3 = 55°$ **, find** $m\angle 13$.



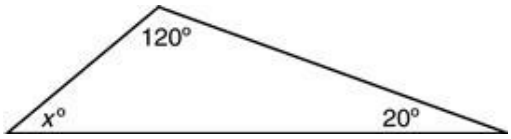
A. 55°

B. 80°

C. 100°

D. 125°

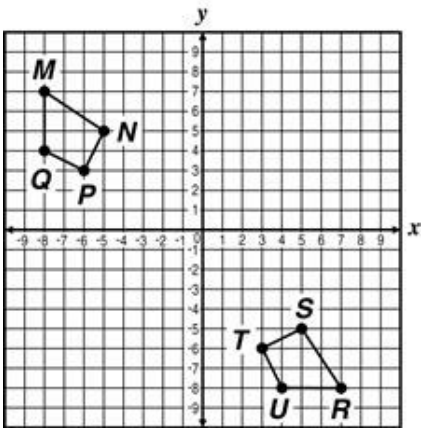
3. **What is the value of x in the triangle below?**



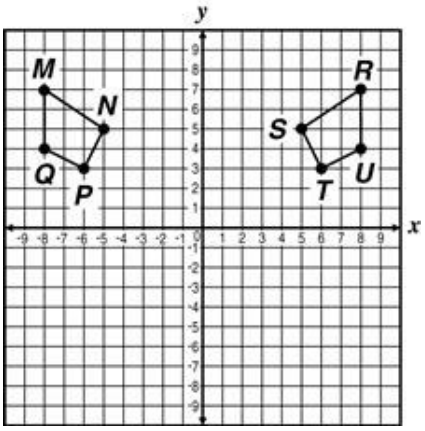
A. 20
B. 40
C. 100
D. 140

4. **Which of the following represents figure *MNPQ* after it has been reflected over the *y*-axis, and then rotated 90° clockwise about the origin to create figure *RSTU*?**

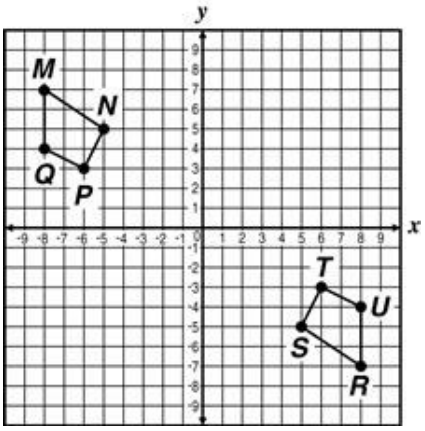
A.



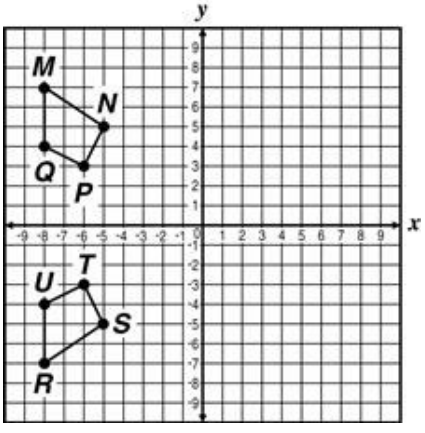
B.



C.

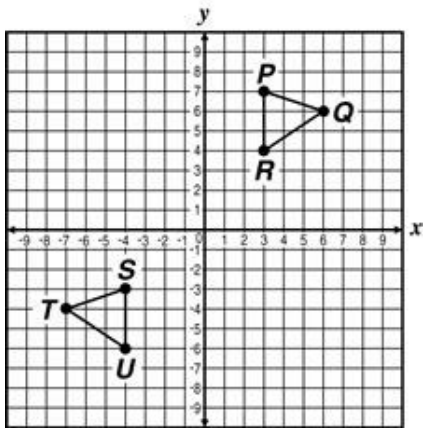


D.

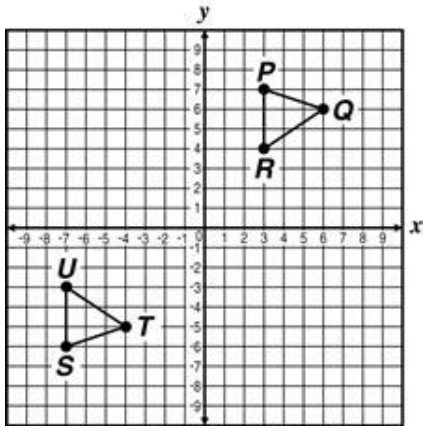


5. **Which graph represents triangle *STU* as the image of triangle *PQR* after triangle *PQR* has been reflected across the *x*-axis and then translated 10 units to the left and 1 unit up?**

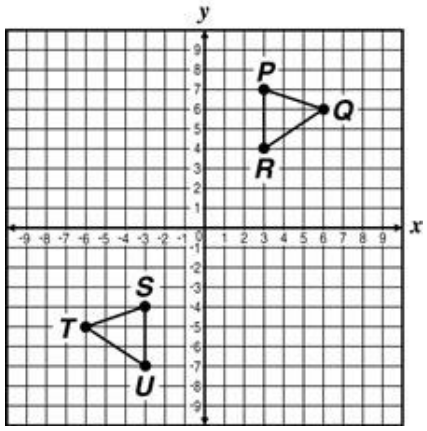
A.



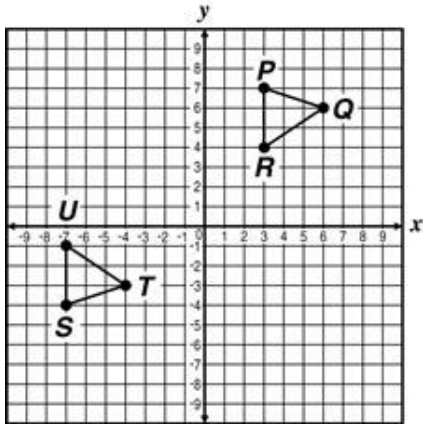
B.



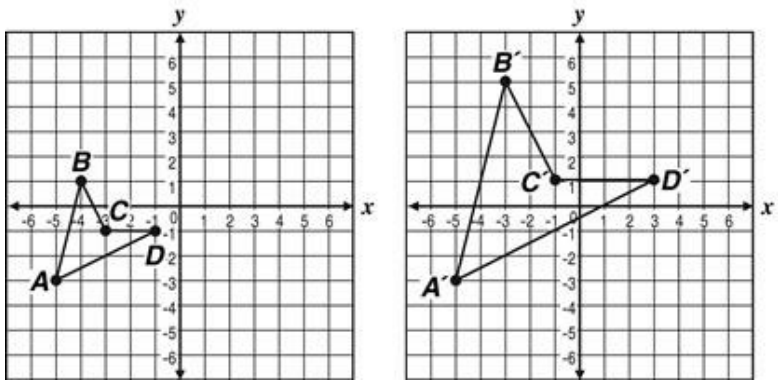
C.



D.

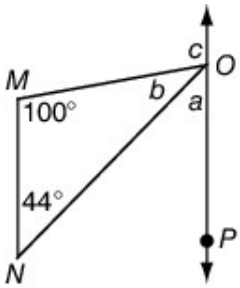


6. **Which term best describes figure $A'B'C'D'$?**



A. dilation
B. reflection
C. rotation
D. translation

7. In the figure below, line segment *MN* is parallel to line *OP*.



Which of these **best** describes the measure of angle *c*?

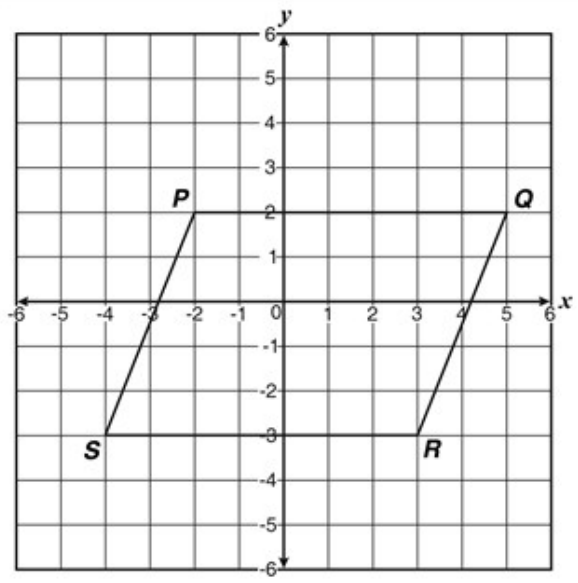
A. The measure of angle *c* is 36° because angle *b* and angle *c* are vertical angles.

B. The measure of angle *c* is 144° because of the properties of the exterior angles of a triangle.

C. The measure of angle c is 44° because line segment NO is a transveral and angles N and b are corresponding angles.

D. The measure of angle *c* is 100° because line segment *MO* is a transversal and angles *m* and *c* are alternate interior angles.

8. **The diagram shows Quadrilateral *PQRS* on a coordinate plane.**



If Quadrilateral *P'Q'R'S'* is the result of the transformation described by (x,y) to (2x, 2y), what are the coordinates of Point *S'*?

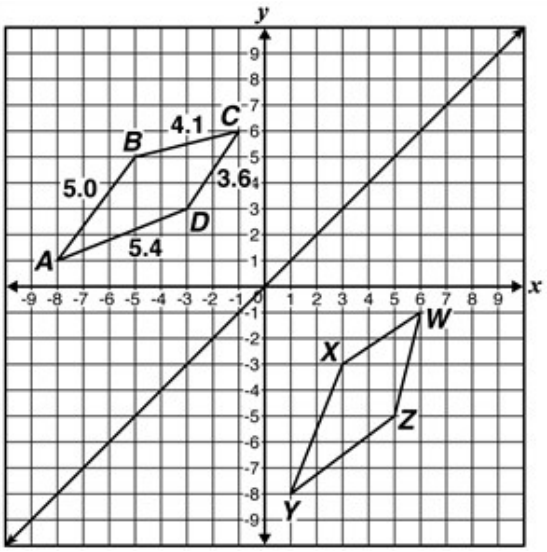
A. (–2, –1.5)

B. (–8, –6)

C. (-6, –8)

D. (8, 6)

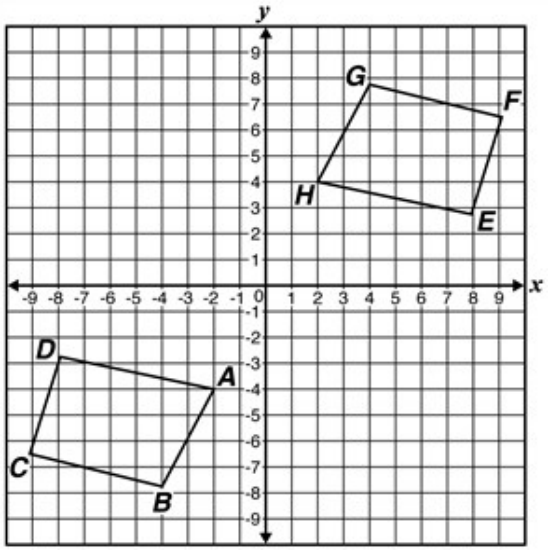
9. **Shanna drew Quadrilateral $ABCD$ in the coordinate plane. She used a ruler to measure each side. She then reflected Quadrilateral $ABCD$ across the line $y = x$ to form a new quadrilateral.**



If Shanna's work is correct, what is the length of $\overline{ZW}$? (corresponding sides)

A. 3.6
B. 4.1
C. 5.0
D. 5.4

10. **Quadrilateral $ABCD$ is graphed in the 3rd quadrant of the coordinate plane. It is rotated such that its image is located in the 1st quadrant.**



Which angle equation is true?

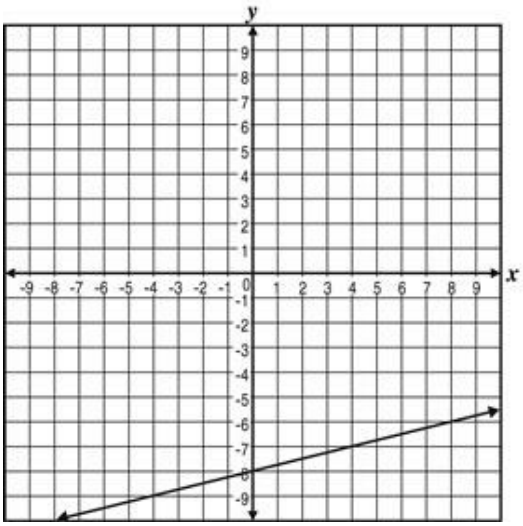
A. $m \angle A = m \angle E$

B. $m \angle B = m \angle H$

C. $m \angle C = m \angle F$

D. $m \angle D = m \angle G$

11. **What is the equation of the given graph?**



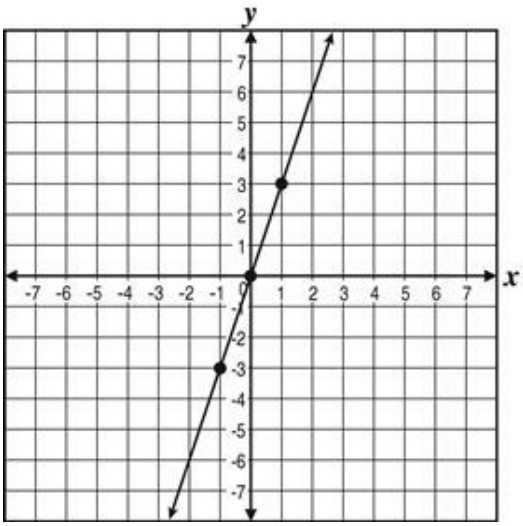
A. $y = 4x - 8$

B. $y = \frac{1}{4}x - 8$

C. $y = -\frac{1}{4}x + 8$

D. $y = -4x + 8$

12. **What is the equation of this line?**



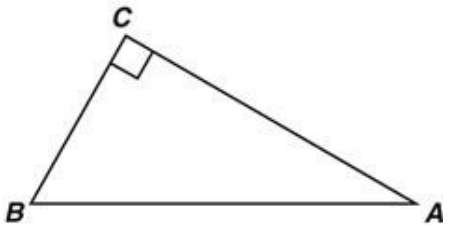
A. $y = x$

B. $y = 2x$

C. $y = 3x$

D. $y = 6x$

13. **Kelly draws $\triangle ABC$ with $m\angle C = 90°$. Using a protractor, she estimates the measure of angle *B* to be 64.5°.**



Which of the following provides the most reasonable estimate for $m\angle A$?

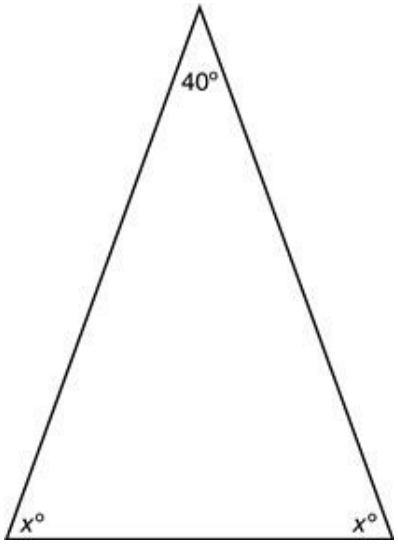
A. 15°

B. 25°

C. 35°

D. 115°

14. **What is the value of x in the triangle below?**



A. 40
B. 70
C. 140
D. 160

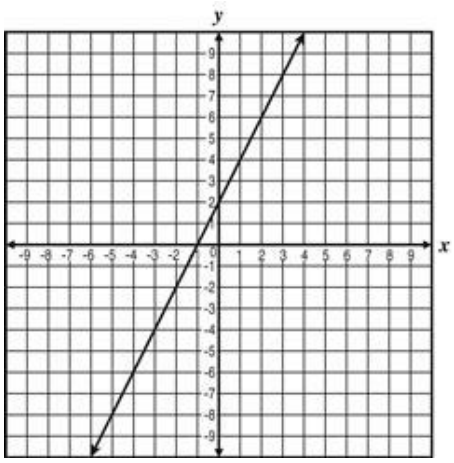
15. **Ray works at a grocery store. The table shows the relationship between the number of hours Ray works and the amount of money he earns.**

Hours Worked	Money Earned
4	$25.00
5	$31.25
6	$37.50
7	$43.75

If this pattern continues, how much will Ray earn after working 10 hours?

A. $50.00
B. $56.25
C. $62.50
D. $68.75

16. **A linear graph is shown below.**



Which linear equation BEST represents a graph parallel to the graph shown?

A. $y = x + 1$

B. $y = -x + 1$

C. $y = 2x + 4$

D. $y = -2x + 2$

17. **Mary Ann's solution to evaluate** $3(14-5)^2 + 2(9-8)^3 - (7+5)(4-2)$ **is shown below.**

Step 1: $3(9)^2 + 2(1)^3 - (12)(2)$

Step 2: $3(81) + 2(3) - 24$

Step 3: $243 + 6 - 24$

Step 4: 225

Which statement about Mary Ann's solution is true?

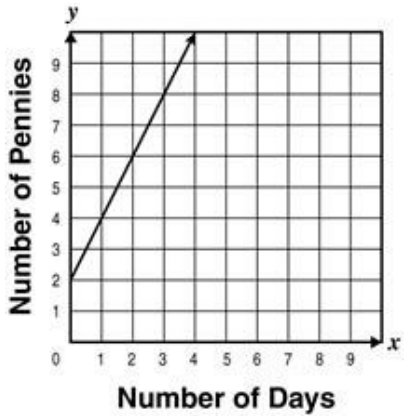
A. Mary Ann made the first mistake in Step 1.

B. Mary Ann made the first mistake in Step 2.

C. Mary Ann made the first mistake in Step 3.

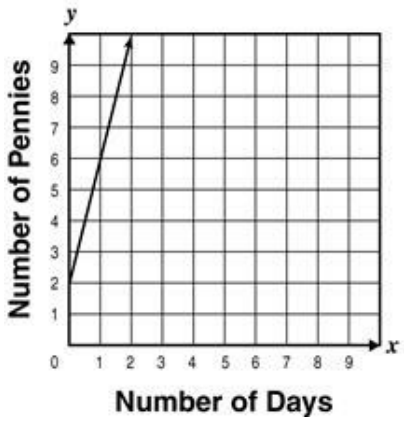
D. Mary Ann's solution is correct.

18. **Samuel received a jar with 2 pennies in it today, and he will add 2 more pennies to it each day. The relationship between *x*, the number of days that pass, and *y*, the total number of pennies in the jar, is graphed below.**

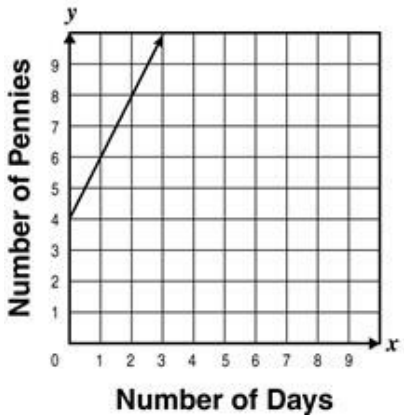


Lisa also has a jar containing 2 pennies. She will add 4 rather than 2 pennies to it each day. Which graph shows the *x* and *y* relationship described above with respect to Lisa's jar?

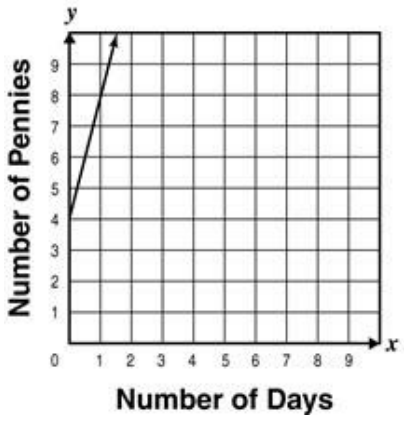
A.



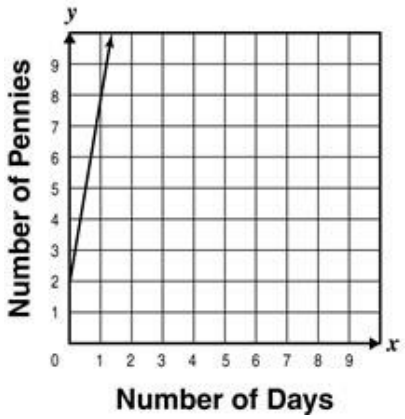
B.



C.



D.



19. **Which equation is true for all values of *x* and *y* in this table?**

x	*y*
–2	–4
–1	$-3\frac{1}{2}$
0	–3
1	$-2\frac{1}{2}$
2	–2

A. $y = 2x$

B. $y = x - 3$

C. $y = \frac{1}{2}x - 3$

D. $y = -x - \frac{5}{2}$

20. **Which equation is true for all values of *x* and *y* in the table?**

x	*y*
–2	–12
–1	–7
0	–2
1	3
2	8

A. $y = x - 10$

B. $y = 7x + 2$

C. $y = 2x - 2$

D. $y = 5x - 2$

21. **Which table corresponds to the equation** $y = -2x + 3$?

A.

x	y
0	3
1	1
2	–1
4	–5

B.

x	y
0	3
1	4
2	5
4	7

C.

x	y
0	0
1	–2
2	–4
4	–8

D.

x	y
0	3
1	5
2	7
4	11

22. **Which statement about the graph of** $y = 3x + 5$ **is correct?**

A. The line passes through the ordered pair $(3, 14)$ and has a slope of $\frac{3}{5}$.

B. The line passes through the ordered pair $(0, 5)$ and has a slope of 3.

C. The line passes through the ordered pair $(3, 0)$ and has a slope of 5.

D. The line passes through the ordered pair $(5, 20)$ and has a slope of $\frac{5}{3}$.

23. **The equation compares the number of points that Steve and Pete each scored in a basketball game.**

$$3s + 5 = p$$

If *s* represents the number of points Steve made and *p* represents the number of points Pete made, which statement is true?

A. Pete scored 5 less than 3 times what Steve scored.

B. Steve scored 5 more than 3 times what Pete scored.

C. Pete scored 5 more than 3 times what Steve scored.

D. Steve scored 3 more than 5 times what Pete scored.

24. **What is the change to the graph of** $y = -3x - 2$ **when the slope is changed to** $-\frac{1}{3}$?

A. The graph is flatter.

B. The graph is steeper.

C. There is no change to the graph.

D. The graph rises from left to right.

25. **What is the *y*-intercept of the line that passes through the points (2, 5) and (3, 6)?**

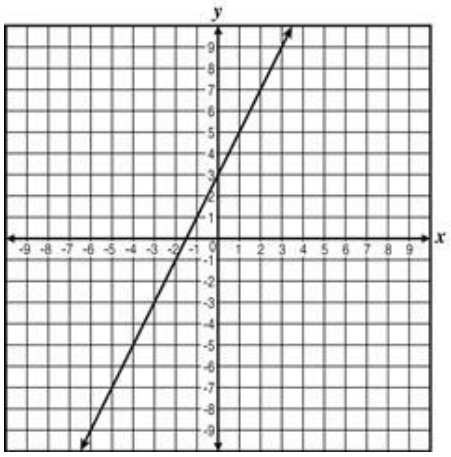
A. $(0, -7)$

B. $(0, -3)$

C. $(0, 1)$

D. $(0, 3)$

26. **Kenny graphed the equation $y = 2x + 3$ below.**



Kenny will graph a second line with the same *y*-intercept, but the second graph will be closer to horizontal than the first. Which change to the equation would result in a second graph with the characteristics described?

A. changing the 2 to $\frac{1}{3}$

B. changing the 3 to $\frac{1}{3}$

C. changing the 2 to a 3

D. changing the 3 to a 2

27. Solve the following equation:

2(x-4) + 6x = x + 55

A. x = 6.7

B. x = -9

C. x = 8

D. x = 9

28. Mary solved the equation 4x + 7 - 2(x - 3) = 5x - (3x + 1) and she stated that the equation has no solution.

Was she right?

A. Yes. When you solve the equation everything cancells out.

B. No. The equation has infinite numbers of solutions.

C. No. The answer is x = 13

D. No. The answer is x = -7

29. Solve the equation:

$3x + 2(4 - 8x) = 60$

A. $x = -4$

B. $x = 6$

C. $x = -10.4$

D. $x = 8$

30. Solve the equation for x:

$-3x + 5 = 7$

A. $x = 5.3$

B. $x = -2$

C. $x = 6$

D. $x = 9$