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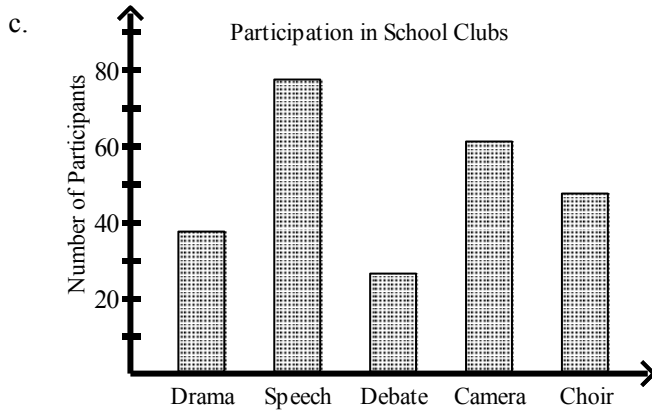
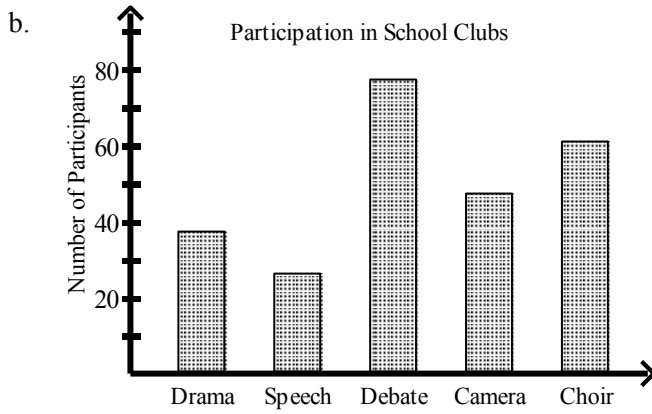
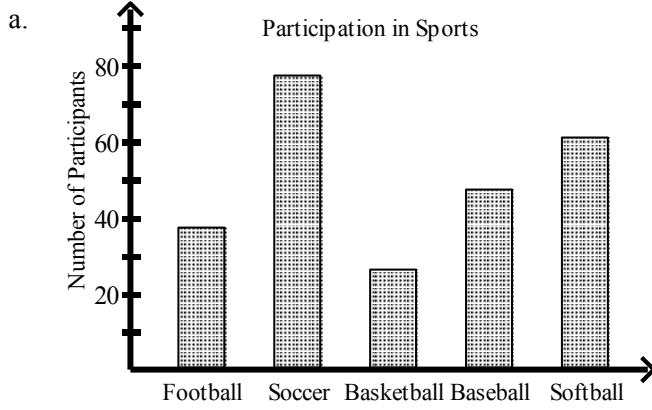
Summer Math Assignment:

The Passaic High School Mathematics Department requests all students to complete the summer assignment. Students must show work on white lined paper and return the assignment to their math teacher by Monday September 11, 2017. Assessment on the summer assignment will be administered the first week of school.

Thank you and have a great summer.

3. Which of the following bar graphs shows the number of participants in various sports as listed below?

Football	Soccer	Basketball	Baseball	Softball
37	77	26	47	61



d. none of these

4. Which data set has mean 6.92?

- a. 5.1, 8.3, 4.1, 6.4, 9.5
- b. 5.4, 7.7, 9.3, 4.2, 7.1

- c. 9.4, 8.1, 4.5, 6.6, 9.6
- d. 6.1, 7.5, 7.3, 8.8, 4.9

Perform the indicated operation.

_____ 5. $\frac{14}{5x} + \frac{14}{6x}$

a. $\frac{14}{11x}$

b. $\frac{28}{11x}$

c. $\frac{14}{15x}$

d. $\frac{77}{15x}$

Identify a pattern and find the next number in the pattern.

_____ 6. $-0.6, -3, -15, -75$

a. -675

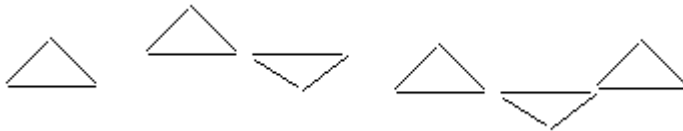
b. -375

c. -75

d. 5

Use a pattern to answer each question.

_____ 7. How many line segments are in the 20th figure?



a. 80

b. 23

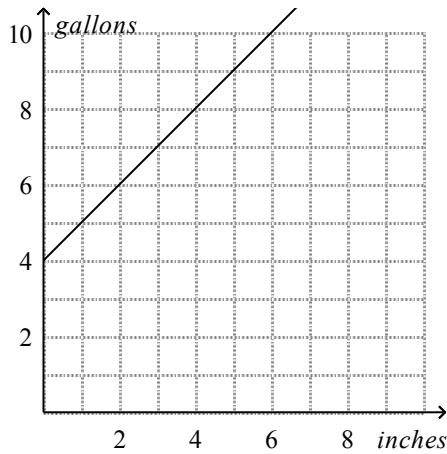
c. 20

d. 60

Use a graph to find the solution.

8. You want to set up an aquarium and need to determine what size tank to buy. The graph shows tank sizes using a rule that relates the capacity of the tank to the combined lengths of the fish it can hold.

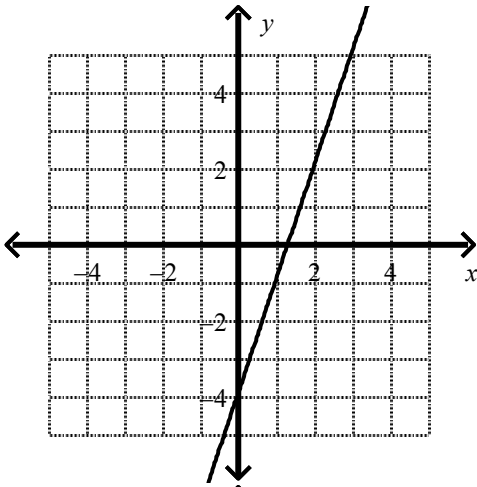
If you want four 2-in. platys, seven 1-in. guppies, and a 3-in. loach, what is the smallest capacity tank you can buy?



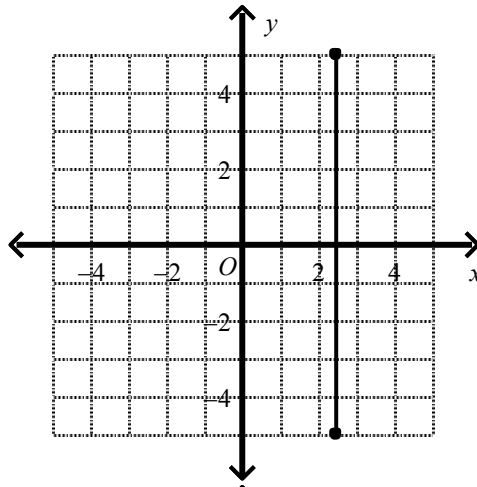
- a. 18-gallon
- b. 22-gallon
- c. 25-gallon
- d. 19-gallon

9. Use the vertical-line test to determine which graph represents a function.

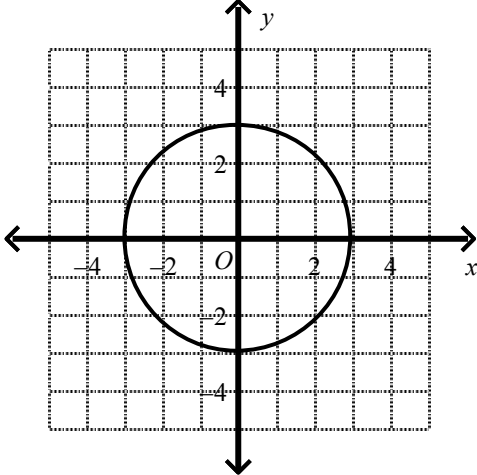
a.



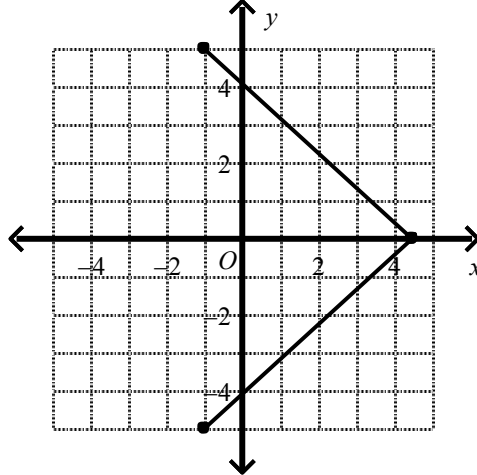
c.



b.



d.



10. Tickets to a concert are available online for \$25 plus a one-time handling fee of \$1.75. The total cost is a function of the number of tickets bought. What function rule models the cost of the concert tickets? Evaluate the function for 6 tickets.

- a. $25t + 1.75$; \$151.75
 b. $1.75t + 25$; \$151.75

- c. $1.75t + 25$; \$35.50
 d. $25t + 1.75$; \$35.50

11. Specialty t-shirts are being sold online for \$35 plus a one-time handling fee of \$1.75. The total cost is a function of the number of t-shirts bought. What function rule models the cost of the t-shirts? Evaluate the function for 6 t-shirts.

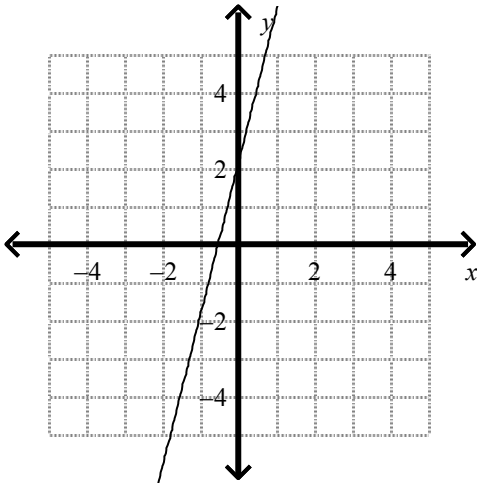
- a. $1.75t + 35$; \$211.75
 b. $35t + 1.75$; \$211.75

- c. $1.75t + 35$; \$45.5
 d. $35t + 1.75$; \$45.5

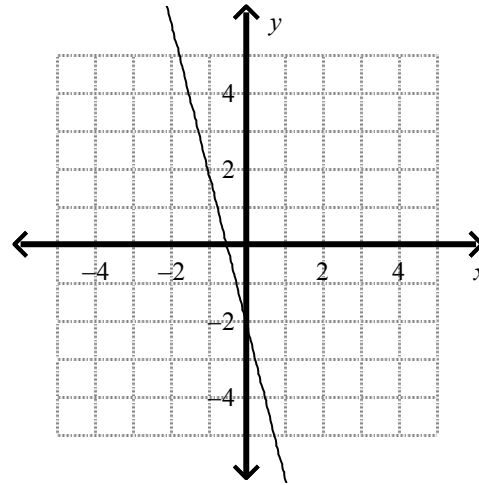
What is the graph of the equation?

12. $-4x + y = -2$

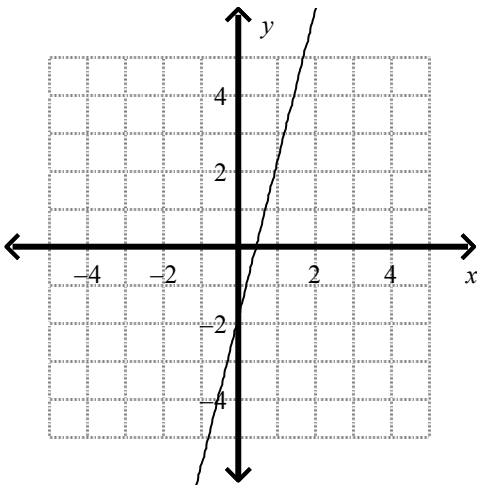
a.



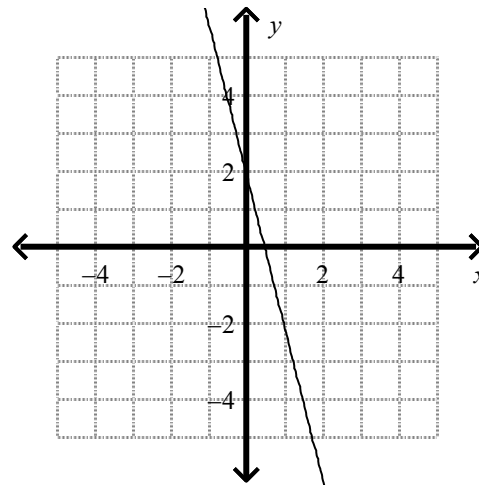
c.



b.



d.



Write an equation of the line, in point-slope form, that passes through the two given points.

13. points: $(-10, 18)$, $(6, -14)$

a. $y - 18 = -2(x + 10)$

c. $y - 10 = -\frac{1}{2}(x + 18)$

b. $y - 10 = -2(x - 18)$

d. $y - 18 = -\frac{1}{2}(x + 10)$

___ 14. points: $(-5, 5)$, $(15, -5)$

a. $(y + 5) = -\frac{1}{2}(x - 5)$

c. $(y - 5) = -\frac{1}{2}(x + 5)$

b. $(y - 5) = -2(x + 5)$

d. $(y + 5) = -2(x - 5)$

What is the equation of the given line in standard form? Use integer coefficients.

___ 15. $y = -0.1x + 3.3$

a. $1x + 10y = 33$

c. $1x + 10y = -33$

b. $-1x + 10y = 33$

d. $-1x + 10y = -33$

What is the equation of the line in slope-intercept form?

___ 16. the line parallel to $y = -7x - 2$ through $(-4, 6)$

a. $y = \frac{1}{7}x - 22$

c. $y = -7x - 34$

b. $y = 7x - 22$

d. $y = -7x - 22$

How can you represent the system of equations with a matrix?

___ 17.
$$\begin{cases} -4x - 10y + 5z = 4 \\ 14x - 5y - 7z = 7 \\ 10x + 14y + 5z = -5 \end{cases}$$

a.
$$\left[\begin{array}{ccc|c} -4 & -10 & 7 & -4 \\ 14 & -5 & -7 & -7 \\ 10 & 14 & 5 & -5 \end{array} \right]$$

c.
$$\left[\begin{array}{ccc|c} -4 & -10 & 7 & 4 \\ 14 & -5 & -7 & 7 \\ 10 & 14 & 5 & -5 \end{array} \right]$$

b.
$$\left[\begin{array}{ccc|c} 10 & 14 & -4 & -4 \\ 14 & -5 & -10 & -10 \\ 5 & -7 & 7 & 7 \\ -5 & 7 & 4 & 4 \end{array} \right]$$

d.
$$\left[\begin{array}{ccc|c} 10 & 14 & -4 & -4 \\ 14 & -5 & -10 & -10 \\ 5 & -7 & 7 & 7 \\ -5 & -7 & -4 & -4 \end{array} \right]$$

What linear system of equations does the matrix represent?

_____ 18.
$$\left[\begin{array}{cc|c} 9 & -11 & -2 \\ -14 & 11 & 8 \end{array} \right]$$

a.
$$\begin{cases} 9x = -14 \\ -11x = 11 \\ -2x = 8 \end{cases}$$

c.
$$\begin{cases} 9x - 11y = -2 \\ -14x + 11y = 8 \end{cases}$$

b.
$$\begin{cases} 9x - 11y = 2 \\ -14x + 11y = -8 \end{cases}$$

d.
$$\begin{cases} 9x = -14 \\ -11x = 11 \\ 2x = -8 \end{cases}$$

What is the solution of the system of equations? (Use a calculator.)

_____ 19.
$$\begin{cases} 5x + 3y + 2z = -4 \\ -5x - 4y - 2z = 7 \\ 4x + 2y + 2z = -2 \end{cases}$$

a. (1, -3, 0)
b. (0, -3, 1)

c. (-1, 3, 0)
d. (0, 3, -1)

What is the number of real solutions?

_____ 20.
$$8x^2 - 11x = -3$$

a. one real solution
b. two real solutions

c. no real solutions
d. cannot be determined

_____ 21.
$$x^2 = -7x + 7$$

a. one solution
b. no real solutions

c. two solutions
d. cannot be determined

What is the simplest form of the expression?

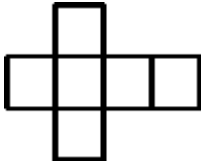
_____ 22.
$$\sqrt{20} + \sqrt{45} - \sqrt{5}$$

a. $4\sqrt{5}$
b. $6\sqrt{5}$

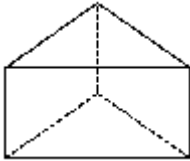
c. $13\sqrt{5}$
d. $5\sqrt{5}$

What is the simplest form of the number?

- ___ 23. $-27^{\frac{2}{3}}$
- a. 9
b. 57
c. -28
d. -18
- ___ 24. What is the solution of $\sqrt{5x+1} - \sqrt{x} = 5$?
- a. $x = 0$
b. $x = 16$ and $x = 0$
c. $x = 16$
d. $x = 16$ and $x = 1$
- ___ 25. You have a coupon good for \$6 off the price of any large pizza. You also get a 20% discount on any pizza if you show your student ID. How much more would you pay for a large pizza if the cashier applies the coupon first?
- a. \$1.50
b. \$0.00
c. \$1.20
d. \$.50
- ___ 26. You can model the population of a certain city between the years 1965 and 1995 by the radical function $P(x) = 55000\sqrt{x-1950}$. Using this model, in what year was the population of that city 235,000?
- a. 1967
b. 1968
c. 1966
d. 1971
- ___ 27. Which three-dimensional figure matches this net?



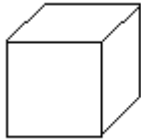
a.



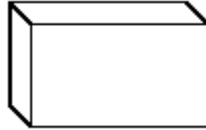
c.



b.

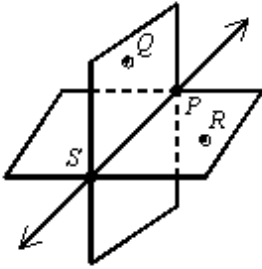


d.

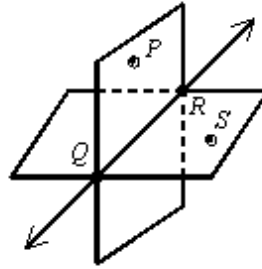


___ 28. Which diagram shows plane PQR and plane QRS intersecting only in \overleftrightarrow{QR} ?

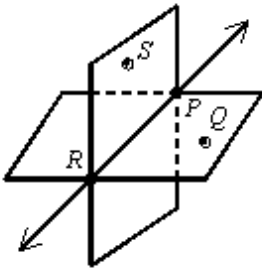
a.



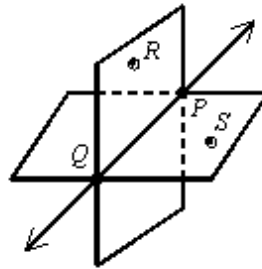
c.



b.



d.



___ 29. Plane ABC and plane BCE ___ be the same plane.

a. must

b. may

c. cannot

___ 30. Which angle is a right angle?

a.



c.



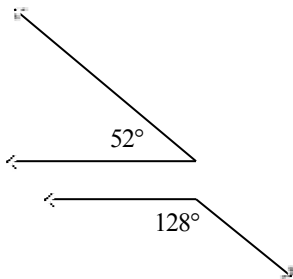
b.



d.



___ 31. How are the two angles related?



Drawing not to scale

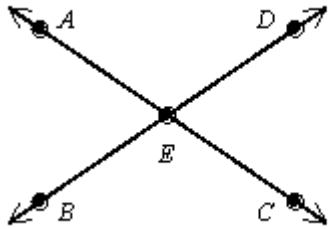
a. vertical

b. supplementary

c. complementary

d. adjacent

___ 32. In the figure shown, $m\angle AED = 120$. Which of the following statements is false?

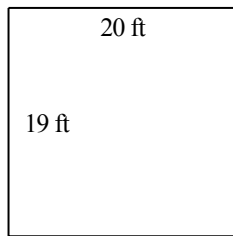


Not drawn to scale

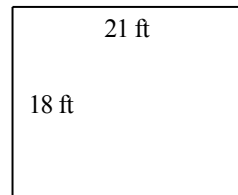
- a. $m\angle AEB = 60$
- b. $\angle BEC$ and $\angle CED$ are adjacent angles.
- c. $m\angle BEC = 120$
- d. $\angle AED$ and $\angle BEC$ are adjacent angles.

___ 33. Jennifer has 78 feet of fencing to make a rectangular vegetable garden. Which dimensions will give Jennifer the garden with greatest area? The diagrams are not to scale.

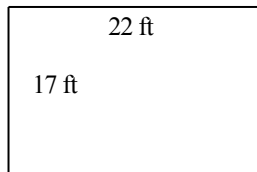
a.



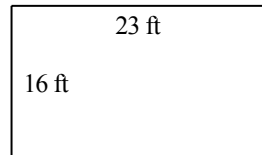
c.



b.



d.



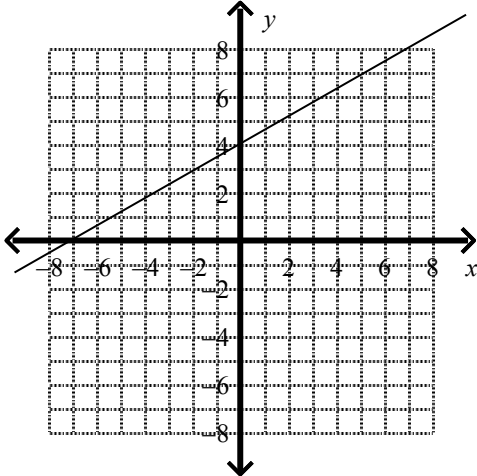
___ 34. Which choice shows a true conditional, with the hypothesis and conclusion identified correctly?

- a. Yesterday was Monday if tomorrow is Thursday.
Hypothesis: Tomorrow is Thursday.
Conclusion: Yesterday was Monday.
- b. If tomorrow is Thursday, then yesterday was Tuesday.
Hypothesis: Yesterday was Tuesday.
Conclusion: Tomorrow is not Thursday.
- c. If tomorrow is Thursday, then yesterday was Tuesday.
Hypothesis: Yesterday was Tuesday.
Conclusion: Tomorrow is Thursday.
- d. Yesterday was Tuesday if tomorrow is Thursday.
Hypothesis: Tomorrow is Thursday.
Conclusion: Yesterday was Tuesday.

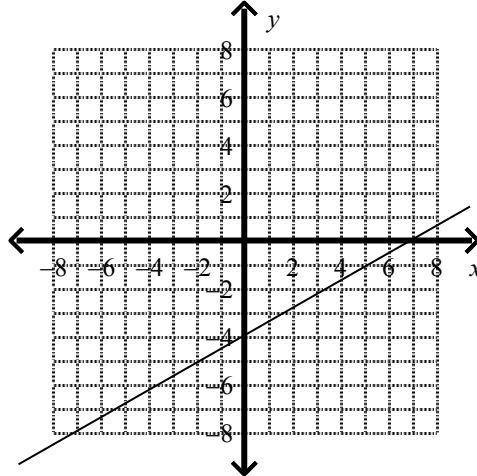
35. Which conditional has the same truth value as its converse?
- If $x = 7$, then $|x| = 7$.
 - If a figure is a square, then it has four sides.
 - If $x - 17 = 4$, then $x = 21$.
 - If an angle has a measure of 80, then it is acute.

36. What is the graph of $-4x + 7y = -28$?

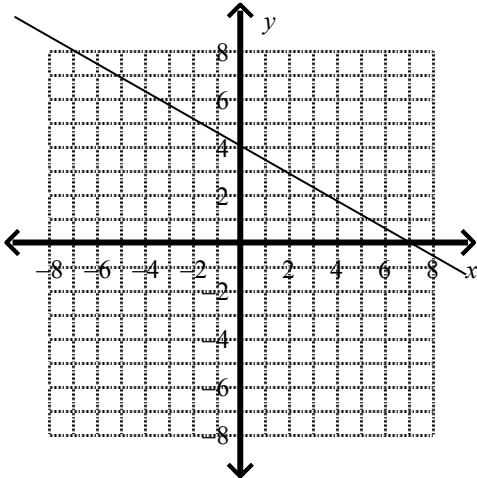
a.



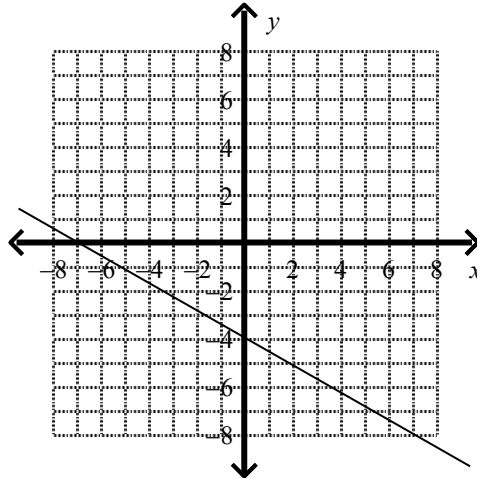
c.



b.



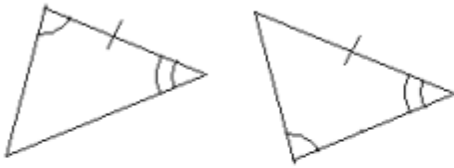
d.



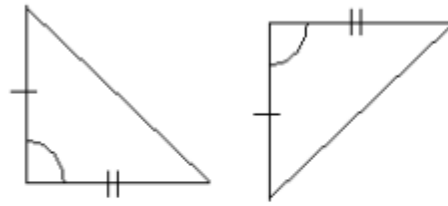
37. What must be true about the slopes of two perpendicular lines, neither of which is vertical?
- The slopes are equal.
 - The slopes have product 1.
 - The slopes have product -1 .
 - One of the slopes must be 0.

___ 38. Which pair of triangles is congruent by ASA?

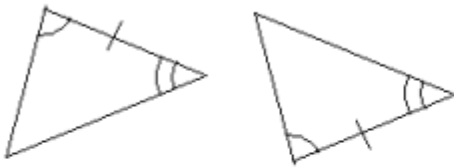
a.



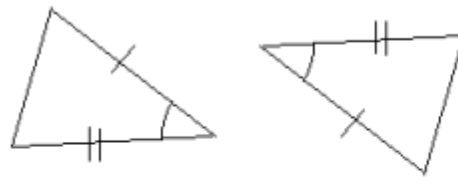
c.



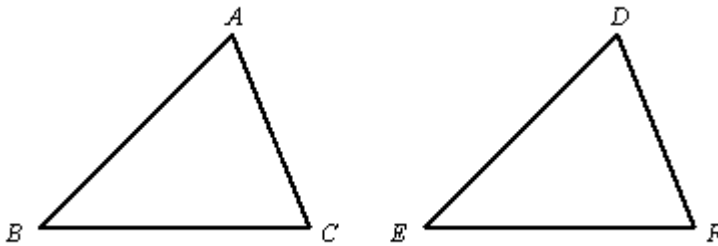
b.



d.



___ 39. If $\angle A \cong \angle D$ and $\angle C \cong \angle F$, which additional statement does NOT allow you to conclude that $\triangle ABC \cong \triangle DEF$?



a. $\overline{BC} \cong \overline{EF}$

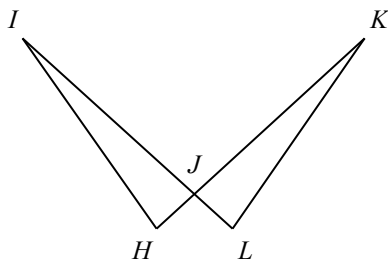
c. $\overline{AC} \cong \overline{DF}$

b. $\angle B \cong \angle E$

d. $\overline{AB} \cong \overline{DE}$

___ 40. Based on the given information, what can you conclude, and why?

Given: $\angle H \cong \angle L$, $\overline{HJ} \cong \overline{JL}$



a. $\triangle HIJ \cong \triangle LKJ$ by ASA

c. $\triangle HIJ \cong \triangle LKJ$ by ASA

b. $\triangle HIJ \cong \triangle LKJ$ by SAS

d. $\triangle HIJ \cong \triangle LKJ$ by SAS