

Bell Ringer

Thursday 4/25

Match the numbers 1-13 with a-l.

| 1. Special Types of Parallelograms <i>f</i> | a. divides the angle into two congruent angles | | | | | | | | | | | | |
|--|--|----------------------------|--------|---------|----------|------------------------------|---------------|----------|----------------------------|----------------------------|--|---|--|
| 2. Angle Bisector <i>a</i> | b. The larger segment is equal to the sum of the segments that comprise it. | | | | | | | | | | | | |
| 3. Vertical Angles <i>g</i> | c. a pair of angles that sum to 180° | | | | | | | | | | | | |
| 4. Supplementary Angles <i>c</i> | d. supplementary | | | | | | | | | | | | |
| 5. Transitive Property <i>j</i> | e. <table border="1"> <tr> <th></th> <th>Inside</th> <th>Outside</th> </tr> <tr> <td>Constant</td> <td>Moves L/R opposite direction</td> <td>Moves up/down</td> </tr> <tr> <td>Negative</td> <td>Reflects across the y-axis</td> <td>Reflects across the x-axis</td> </tr> <tr> <td></td> <td colspan="2">If A>1 then Vertical Stretch, If 0<A<1 then Vertical Shrink</td> </tr> </table> | | Inside | Outside | Constant | Moves L/R opposite direction | Moves up/down | Negative | Reflects across the y-axis | Reflects across the x-axis | | If A>1 then Vertical Stretch, If 0<A<1 then Vertical Shrink | |
| | Inside | Outside | | | | | | | | | | | |
| Constant | Moves L/R opposite direction | Moves up/down | | | | | | | | | | | |
| Negative | Reflects across the y-axis | Reflects across the x-axis | | | | | | | | | | | |
| | If A>1 then Vertical Stretch, If 0<A<1 then Vertical Shrink | | | | | | | | | | | | |
| 6. If we have two parallel lines that are cut by a transversal, then we know the following to be true: <i>≠ ≠</i> | f. rectangle, square, & rhombus | | | | | | | | | | | | |
| 7. Opposite angles in an inscribed quadrilateral are _____ <i>d</i> | g. a pair of opposite angles that are always congruent | | | | | | | | | | | | |
| 8. Symmetric Property <i>.</i> | h. (outside)(whole)=(outside)(whole) $x(x+6) = 5(5+8)$ $8(8) = 5(5+C)$ | | | | | | | | | | | | |
| 9. Segment Addition Postulate <i>b</i> | i. If a=b, then b=a. | | | | | | | | | | | | |
| 10. Function Transformations <i>e</i> | j. If a=b and b=c, then a=c. | | | | | | | | | | | | |
| 11. Exterior Segment in a Circle <i>h</i> | k. alternate interior angles, corresponding angles, & alternate exterior angles are congruent same-side interior angles are supplementary | | | | | | | | | | | | |
| 12. Exterior Angle in a Circle <i>l</i> | l. <u>Exterior angle</u> = $\frac{1}{2}$ (Big Arc-Small Arc) Ex. $\angle x = \frac{1}{2}(72^\circ - 22^\circ)$ | | | | | | | | | | | | |

$$y = \frac{1}{2}(x+3)^2 + 1$$

13. Match each quadrilateral to its properties. **Rectangle, Square, or a Rhombus.**

- | | | |
|-----------------------|------------------------------|------------------------------|
| All angles are 90° | All sides are \cong | All sides are \cong |
| Diagonals are \cong | All angles are 90° | Diagonals are \perp |
| | Diagonals are \cong | Diagonals bisect \angle 's |
| | Diagonals are \perp | |
| | Diagonals bisect \angle 's | |

Garbage Ball...

Pass out whiteboards

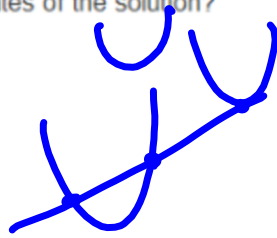
1

Solve this system of equations.

$$\begin{cases} y = 7x - 14 \\ y = x^2 + 4x - 32 \end{cases}$$

What are the x -coordinates of the solution?

- (A) $x = -3$ or 6
 (B) $x = -8, 2,$ or 4
 (C) $x = -9$ or 2
 (D) $x = -35$ or 28



$$x^2 + 4x - 32 = 7x - 14$$

$$-7x + 14 \quad -7x + 14$$

$$x^2 - 3x - 18 = 0$$

$$(x - 6)(x + 3) = 0$$

$$x - 6 = 0$$

$$+6 \quad -6$$

$$x = 6$$

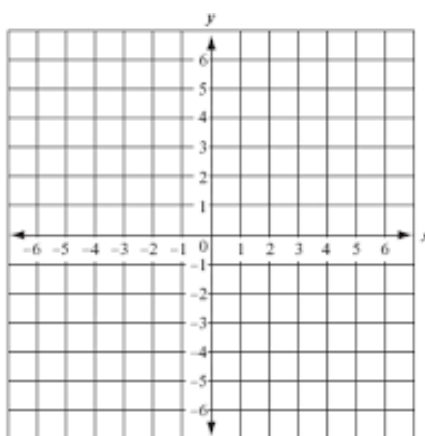
$$x = -3$$

$$\begin{array}{c} -18 \\ -6 \quad 3 \\ -3 \end{array}$$

2

22. How many points of intersection are there when $y = x + 4$ and $x^2 + y^2 = 8$ are graphed on the same coordinate plane?

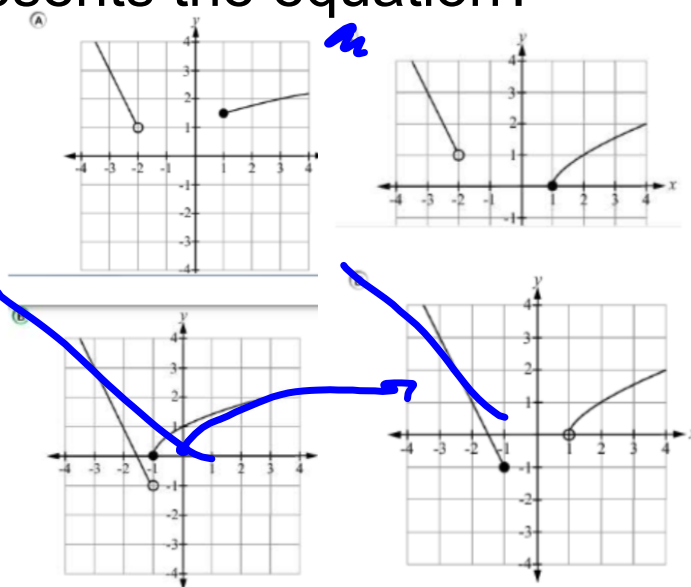
- (A) none
- (B) one
- (C) two
- (D) three



$$y = x + 4$$

3 Which graph represents the equation?

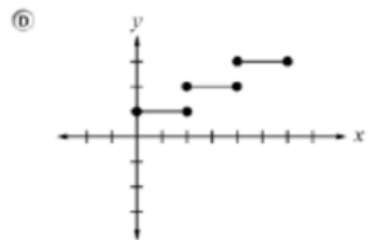
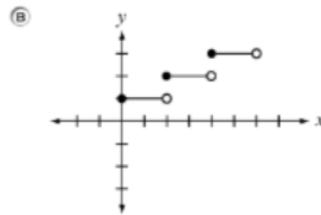
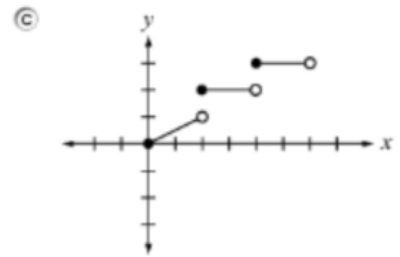
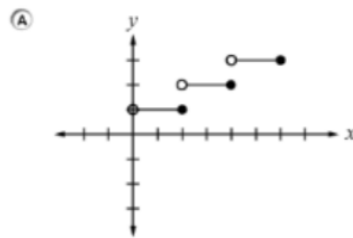
$$f(x) = \begin{cases} -2x - 3, & x < -2 \\ \sqrt{x-1}, & x \geq 1 \end{cases}$$



4

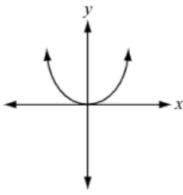
$$f(x) = \begin{cases} 1, & 0 \leq x < 2 \\ 2, & 2 \leq x < 4 \\ 3, & 4 \leq x < 6 \end{cases}$$

Which is the graph of this function?



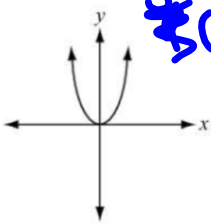
5

$f(x)$ is shown.



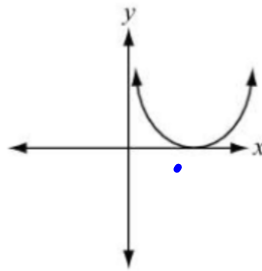
Which graph represents $f(kx)$, where k is real number greater than 1?

(B)

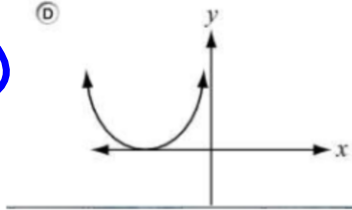


$y = 2x^2$
 ~~$y = \frac{1}{2}(x-k)$~~

(C)

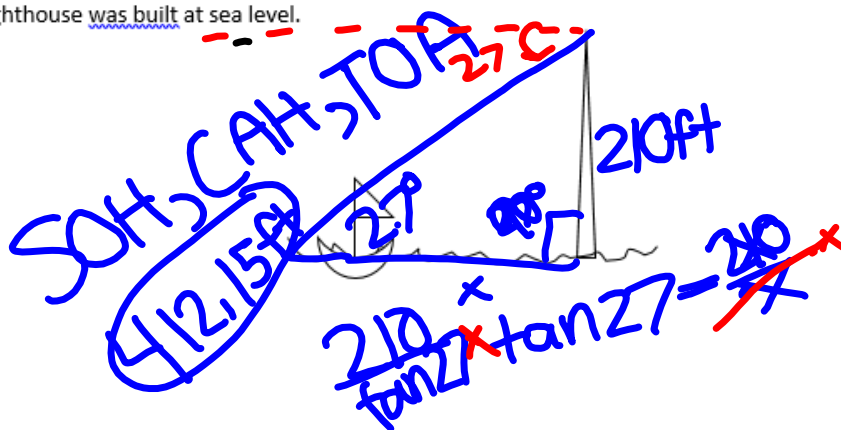


(D)



6

8. From the top of a lighthouse 210 feet high, the angle of depression of a boat is 27° . Find the distance from the boat to the foot of the lighthouse. The lighthouse was built at sea level.



7

11. Factor the expression.

$$(7x^3 - 6x^2) + (28x - 24)$$

A) $(7x + 4)(x^2 + 6)$

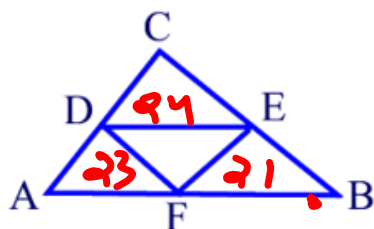
B) $(7x + 4)(x^2 - 6)$

C) $(x - 2)(x + 2)(x^2 + 6)$

D) $(x^2 + 4)(7x - 6)$

$$\begin{array}{l} \cancel{x^2}(7x-6) + \cancel{4}(7x-6) \\ (7x-6)(x^2+4) \end{array}$$

9

Given $AC = 42$, $CB = 46$, $AB = 48$. D , E , F are midpoints.Find the perimeter of triangle DEF .

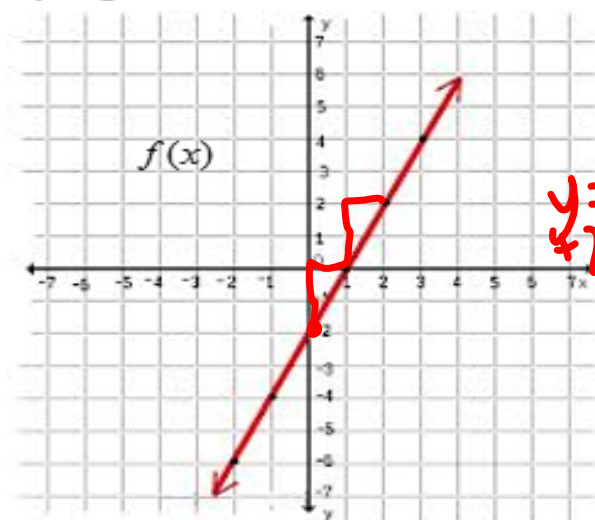
Choose:

- 34
- 48
- 68
- 136

24

10

Given the function $g(x) = 2x^2 - 1$, perform the indicated operations.

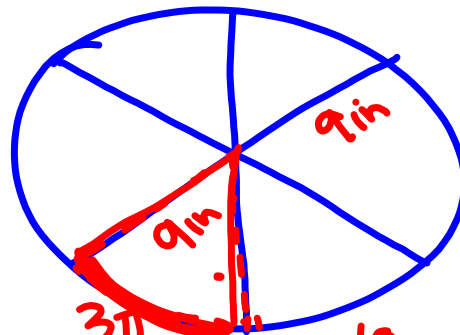
24. $f + g$ 

$$y = 2x - 2$$
$$+ 2x^2 - 1$$
$$2x^2 + 2x - 3$$

- 15 19. A circle has a diameter of 18 inches and is divided into 6 equal sectors. What is the perimeter of each sector?

- A $9 + 3\pi$
 B $18 + 3\pi$
 C $18 + 6\pi$
 D $36 + 6\pi$

$$18 +$$



$$C = \pi d \Rightarrow 18\pi \left(\frac{1}{6}\right) = 3\pi$$

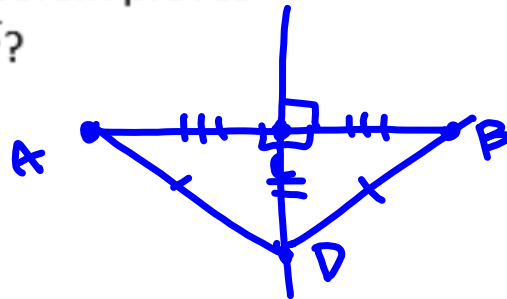
- 20 27. Given segment \overline{AB} with midpoint C, a line through C perpendicular to \overline{AB} extends through point D. Which theorem proves that \overline{AD} is congruent to \overline{BD} ?

(A) AAS

(B) ASA

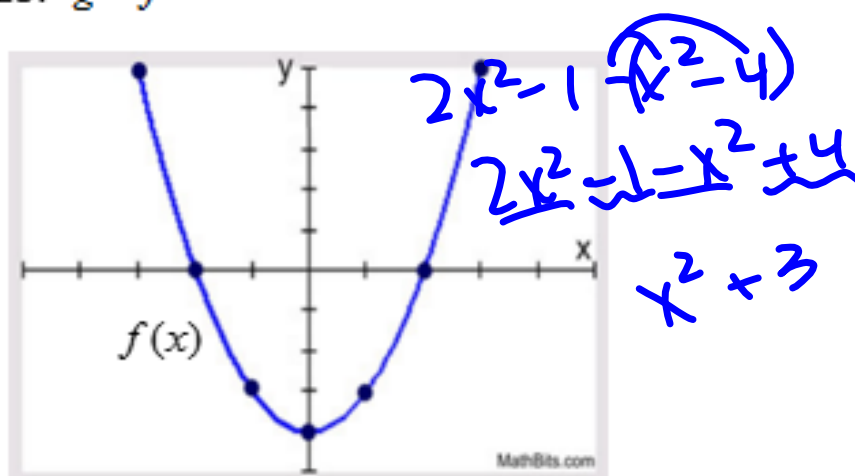
(C) SAS

(D) SSS



11 Given the function $g(x) = 2x^2 - 1$, perform the indicated operations.

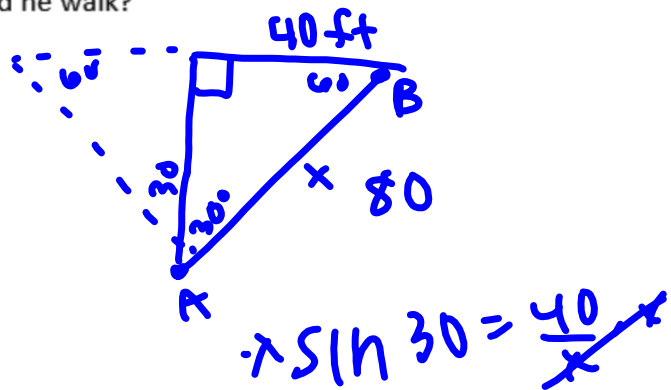
25. $g - f$



14

10. Xavier cannot walk directly from point A to point B. Instead, he starts by walking at an angle of 30° from the direct path, then makes a 90° turn, and finally walks 40 ft to reach his destination? If Xavier were able to take a direct path, how far would he walk?

- (A) 20 feet
- (B) $40\sqrt{2}$ feet
- (C) $40\sqrt{3}$ feet
- (D) 80 feet



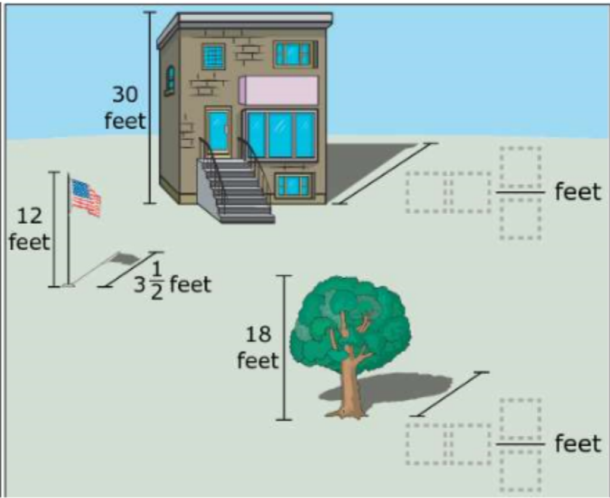
12

1

The 12-foot flagpole shown casts a shadow that is $3\frac{1}{2}$ feet long. Nearby are an 18-foot-tall tree and a 30-foot-tall building.

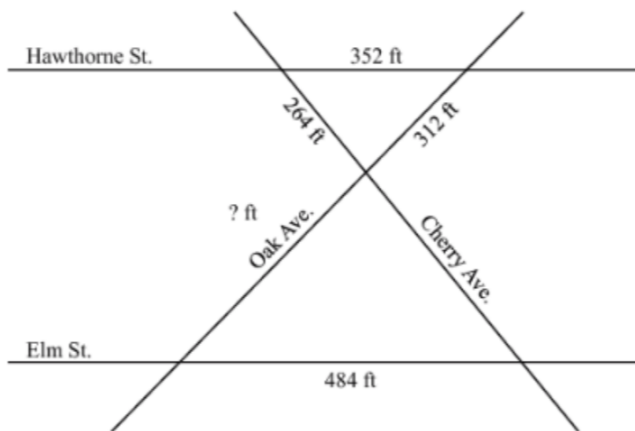
Place digits in the boxes to show the lengths of the other two shadows.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9



13.

Hawthorne Street and Elm Street are parallel to each other in the map shown.



- (A) 312 feet
- (B) 363 feet
- (C) 429 feet
- (D) 444 feet

How far, in feet, is the intersection of Elm Street and Oak Avenue from the intersection of Oak Avenue and Cherry Avenue?

16

23. A cylindrical container of canned food has a diameter of 3 inches and a height of 4.5 inches. What is the volume of the can?

- Ⓐ $6.75\pi \text{ in.}^3$
- Ⓑ $10.125\pi \text{ in.}^3$
- Ⓒ $40.5\pi \text{ in.}^3$
- Ⓓ $45.5625\pi \text{ in.}^3$

8

14. Find the average rate of change of each function over the given interval:

$$f(x) = 3x - 2, \quad [0, 5]$$

a) $\frac{1}{3}$

b) 3

c) $\frac{11}{5}$

d) -3

17

24. A funnel, in the shape of a perfect cone, has a circular base with a radius that is equal to its height. The funnel is filled with sand and is emptied into a cylinder with the same radius and height as the cone.

How much empty space is left over in the cylinder after it is filled with sand from the cone?

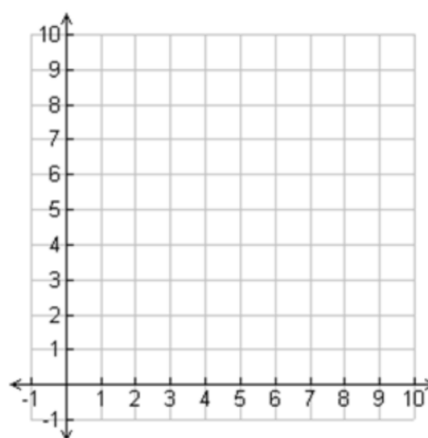
- (A) No space remains in the cylinder.
- (B) One-half of the original volume of the cylinder is empty.
- (C) One-third of the original volume of the cylinder is empty.
- (D) Two-thirds of the original volume of the cylinder is empty.

18^{25.}

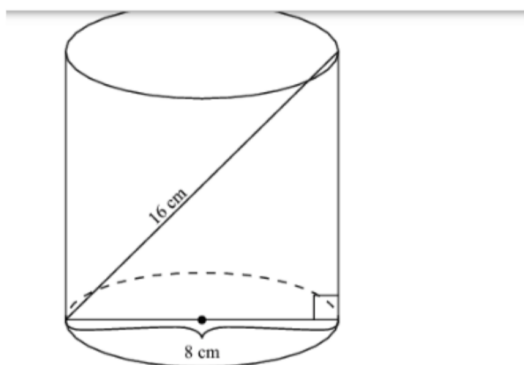
Quadrilateral WXYZ has vertices W (1, 4), X(5, 1), Y(8, 4), and Z(5, 7).

What type of quadrilateral is WXYZ?

- (A) kite
- (B) parallelogram
- (C) rhombus
- (D) square
- (E) trapezoid



19 26.



What is the volume, in cubic centimeters, of this right cylinder?

- (A) $64\sqrt{3}\pi$ cubic centimeters
- (B) $32\pi + 64\sqrt{3}\pi$ cubic centimeters
- (C) $128\sqrt{3}\pi$ cubic centimeters
- (D) $512\sqrt{3}\pi$ cubic centimeters

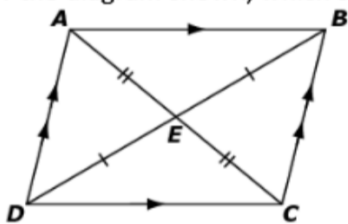
9

 #MyWeirdTeacher

 #MomQuotes

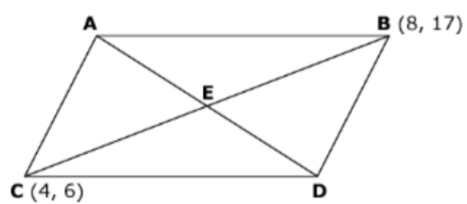
 #MyWeirdFear

28. For the diagram shown, which statement helps prove $\triangle ABC \cong \triangle CDB$?



- (A) Diagonals of a parallelogram bisect each other.
- (B) Opposite sides of a parallelogram are congruent.
- (C) Corresponding parts of congruent triangles are congruent.
- (D) Alternate interior angles formed by parallel lines and a transversal are congruent.

29. Keily claims this figure is a parallelogram.



If she is correct, what are the coordinates of point E?

- Ⓐ $(2, \frac{11}{2})$
- Ⓑ $(\frac{11}{2}, 2)$
- Ⓒ $(6, \frac{23}{2})$
- Ⓓ $(\frac{23}{2}, 6)$

30. Which property is sufficient to prove that a parallelogram is a rectangle?

- Ⓐ Opposite sides must be congruent.
- Ⓑ The diagonals must bisect each other.
- Ⓒ The diagonals must be congruent.
- Ⓓ The diagonals must be perpendicular.

11. In the figure shown, the area of the right triangle is 3 square units.

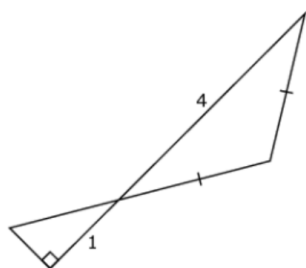


Figure not drawn to scale

What is the area of the isosceles triangle?

- (A) 6 square units
- (B) 12 square units
- (C) 24 square units
- (D) 48 square units

