

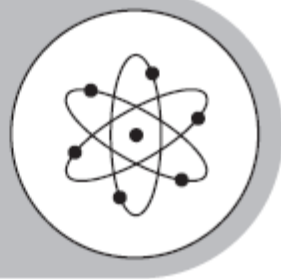
CCGPS COORDINATE ALGEBRA



Study



Guide



Georgia End-Of-Course Tests



January 11, 2013

CCGPS Coordinate Algebra Formula Sheet

Below are the formulas you may find useful as you work the problems. However, some of the formulas may not be used. You may refer to this page as you take the test.

Area

Rectangle and Parallelogram $A = bh$

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

Circle $A = \pi r^2$

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

Circumference

$C = \pi d$ $\pi \approx 3.14$

Volume

Rectangular Prism/Cylinder $V = Bh$

Pyramid/Cone $V = \frac{1}{3}Bh$

Sphere $V = \frac{4}{3}\pi r^3$

Surface Area

Rectangular Prism $SA = 2lw + 2wh + 2lh$

Cylinder $SA = 2\pi r^2 + 2\pi rh$

Pythagorean Theorem

$$a^2 + b^2 = c^2$$

Mean Absolute Deviation

$$\frac{\sum_{i=1}^n |x_i - \bar{x}|}{n}$$

the average of the absolute deviations from the mean for a set of data

Distance Formula

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Slope Formula

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Midpoint Formula

$$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

Interquartile Range

the difference between the first quartile and third quartile of a set of data

<p>1) A rectangle has a length of 12 m and a width of 400 cm. What is the perimeter of the rectangle?</p> <p>A. 824 cm B. 1600 cm C. 2000 cm D. 3200 cm</p>	<p>2) The tension caused by a wave moving along a string is found using the formula $T = \frac{mv^2}{L}$</p> <p>If m is the mass of the string in grams, L is the length of the string in centimeters, and v is the velocity of the wave in centimeters per second, what is the unit of the tension of the string, T?</p> <p>A. gram-centimeters per second squared B. centimeters per second squared C. grams per centimeter-second squared D. centimeters squared per second</p>
<p>3) The distance a car travels can be found using the formula $d = rt$, where d is the distance, r is the rate of speed, and t is time. How many miles does the car travel, if it drives at a speed of 70 miles per hour for $\frac{1}{2}$ hour?</p> <p>A. 35 miles B. 70 miles C. 105 miles D. 140 miles</p>	<p>4) A certain population of bacteria has an average growth rate of 0.02 bacteria per hour. The formula for the growth of the bacteria's population is $A = P(2.71828)^{0.02t}$, where P_0 is the original population, and t is the time in hours.</p> <p>If you begin with 200 bacteria, about how many bacteria will there be after 100 hours?</p> <p>A. 7 B. 272 C. 1,478 D. 20,000</p>

5) The sum of the angle measures in a triangle is 180° . Two angles of a triangle measure 20° and 50° . What is the measure of the third angle?

- A. 30°
- B. 70°
- C. 110°
- D. 160°

6) Which equation shows $P = 2l + 2w$ when solved for w ?

- A. $w = \frac{2l}{P}$
- B. $w = \frac{2l - P}{2}$
- C. $w = 2l - \frac{P}{2}$
- D. $w = \frac{P - 2l}{2}$

7) Bruce owns a business that produces widgets. He must bring in more in revenue than he pays out in costs in order to turn a profit.

- It costs \$10 in labor and materials to make each of his widgets.
- His rent each month for his factory is \$4000.
- He sells each widget for \$25.

How many widgets does Bruce need to sell each month to make a profit?

- A. 160
- B. 260
- C. 267
- D. 400

<p>1) Which equation shows $ax - w = 3$ solved for w?</p> <p>A. $w = ax - 3$ B. $w = ax + 3$ C. $w = 3 - ax$ D. $w = 3 + ax$</p>	<p>2) Which equation is equivalent to $\frac{7x}{4} - \frac{3x}{8} = 11$?</p> <p>A. $17x = 88$ B. $11x = 88$ C. $4x = 44$ D. $2x = 44$</p>
<p>3) Which equation shows $4n = 2(t - 3)$ solved for t?</p> <p>A. $t = \frac{4n - 2}{3}$ B. $t = \frac{4n + 2}{3}$ C. $t = 2n - 3$ D. $t = 2n + 3$</p>	<p>4) Which equation shows $6(x + 4) = 2(y + 5)$ solved for y?</p> <p>A. $y = x + 3$ B. $y = x + 5$ C. $y = 3x + 7$ D. $y = 3x + 17$</p>

5) This equation can be used to find h , the number of hours it takes Flo and Bryan to mow their lawn.

$$\frac{h}{3} + \frac{h}{6} = 1$$

How many hours will it take them to mow their lawn?

- A. 6
- B. 3
- C. 2
- D. 1

6) A ferry boat carries passengers back and forth between two communities on the Peachville River.

- It takes 30 minutes longer for the ferry to make the trip upstream than downstream.
- The ferry's average speed in still water is 15 miles per hour.
- The river's current is usually 5 miles per hour.

This equation can be used to determine how many miles apart the two communities are.

$$\frac{m}{15-5} = \frac{m}{15+5} + 0.5$$

What is m , the distance between the two communities?

- A. 0.5 miles
- B. 5 miles
- C. 10 miles
- D. 15 miles

7) For what values of x is the inequality

$$\frac{2}{3} + \frac{x}{3} > 1 \text{ true?}$$

- A. $x < 1$
- B. $x > 1$
- C. $x < 5$
- D. $x > 5$

8) A manager is comparing the cost of buying ball caps with the company emblem from two different companies.

- Company X charges a \$50 fee plus \$7 per cap.
- Company Y charges a \$30 fee plus \$9 per cap.

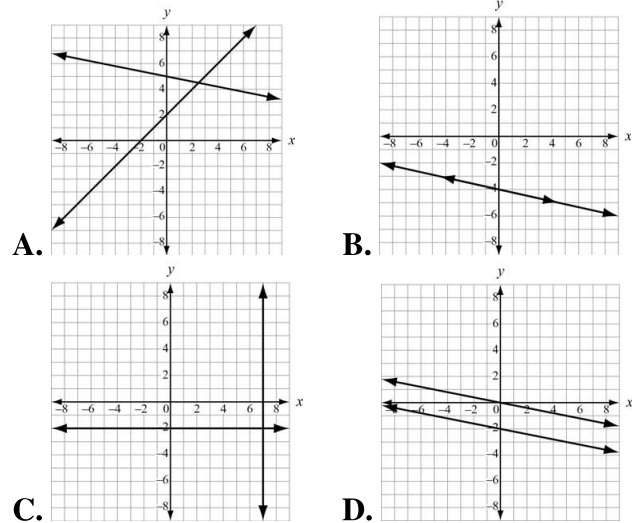
For what number of ball caps will the manager's cost be the same for both companies?

- A. 10 caps
- B. 20 caps
- C. 40 caps
- D. 100 caps

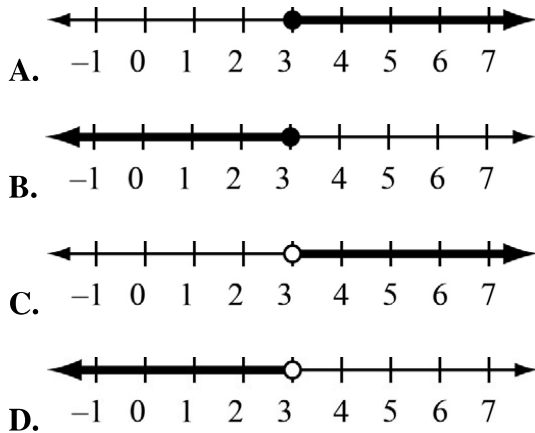
9) A shop sells one-pound bags of peanuts for \$2 and three-pound bags of peanuts for \$5. If 9 bags are purchased for a total cost of \$36, how many three-pound bags were purchased?

- A. 3
- B. 6
- C. 9
- D. 18

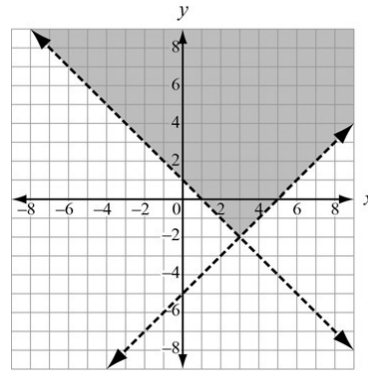
10) Which graph represents a system of linear equations that has multiple common coordinate pairs?



11) Which graph represents $x > 3$?



12) Which pair of inequalities is shown in the graph?



- A. $y > -x + 1$ and $y > x - 5$
- B. $y > x + 1$ and $y > x - 5$
- C. $y > -x + 1$ and $y > -x - 5$
- D. $y > x + 1$ and $y > -x - 5$