

39.

A salesclerk earns \$250 per week plus a commission of $\frac{1}{5}$ of her total sales. If her sales total x dollars, which equation can be used to determine her total weekly earnings?

A $y = 250(x + \frac{1}{5})$

B $y = 250x + \frac{1}{5}x$

C $y = 250x + \frac{1}{5}$

D $y = 250 + \frac{1}{5}x$

40.

The profit earned on the sale of tool sets can be represented as the product of the number of tool sets sold and the difference between the selling price and the cost of making each set. The selling price of each tool set is \$19.95, and the cost of making each set is \$4.37. Which equation represents p , the profit, in terms of s , the number of tool sets sold?

A $p = s(19.95 - 4.37)$

B $p = s(19.95 + 4.37)$

C $p = 19.95 + 4.37s$

D $p = 19.95s - 4.37$

41. X AND Y- INTERCEPTS

- Define the word intercept

We have already discussed the fact that the coordinate point of the y-intercept of a line that crosses the y-axis at 6 must start with a zero; (0,6). What should the x intercept that crosses the x-axis at 5 be? (,)

42.

What is the equation of a line with an x-intercept of -3 and a y-intercept of 5 ?

A $y = \frac{3}{5}x + 5$

B $y = \frac{5}{3}x + 5$

C $y = 5x + \frac{5}{3}$

D $y = -\frac{5}{3}x + 5$

43. Consider solving for y . Use the $y=$ program, graph, and determine the intercepts.

Find the coordinates of the x-intercept and the y-intercept of the line $2x = 9 - 3y$.

A x-intercept (3, 0); y-intercept (0, $\frac{9}{2}$)

B x-intercept (0, 3); y-intercept ($\frac{9}{2}$, 0)

C x-intercept (0, $\frac{9}{2}$); y-intercept (3, 0)

D x-intercept ($\frac{9}{2}$, 0); y-intercept (0, 3)

44.

Find the x- and y-intercepts of $-4x + 7y = -28$.

A x-intercept: $(-4, 0)$
y-intercept: $(0, 7)$

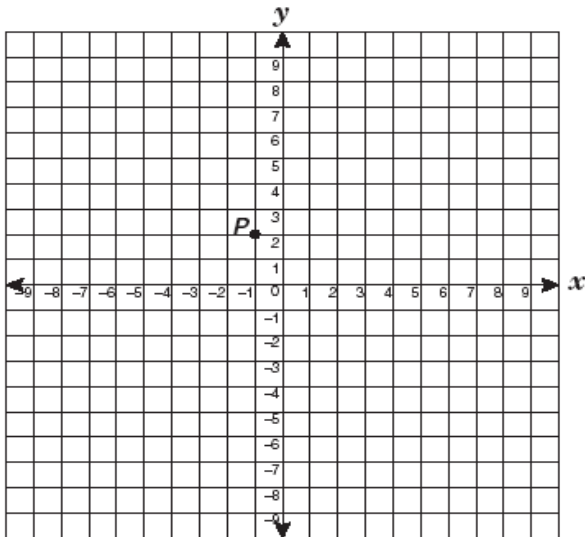
B x-intercept: $(7, 0)$
y-intercept: $(0, -4)$

C x-intercept: $(0, 7)$
y-intercept: $(-4, 0)$

D x-intercept: $(0, -4)$
y-intercept: $(7, 0)$

45.

17 Identify the location of point P under translation $(x + 3, y - 2)$.



- A (3, -2)
- B (2, 3)
- C (-1, 0)
- D (2, 0)

46.

- *Parallel Lines have the same slope with different y intercepts.*
- Example: $y = 3x + 4$
 $y = 3x - 2$

- *The same line has the same slope and the same y intercept.*
- Example: $y = 3x + 4$
 $-3x + y = 4$ **Explain why:**

47.

- *Perpendicular lines have opposite and reciprocal slopes*

Example: $y = 2x + 4$ vs. $y = -\frac{1}{2}x + 5$

What is the equation of a line perpendicular to $y = \frac{1}{4}x - 3$ that passes through $(6,0)$?

48.

What is **the slope** of a line perpendicular to

- A. $y = \frac{3}{4}x - 2$ _____
- B. $y = \frac{8}{3}x$ _____
- C. $y = \frac{1}{4}x - 5$ _____
- D. $y = 2x + 3$ _____
- E. $y = 6x + 5$ _____

49.

The total cost, c , of leasing a car can be expressed by the equation $c = 1800 + 185m$, where m is the number of months the car is leased. Which statement is true based on the information given?

- F The car must be leased for at least 60 months.
- G The total cost of leasing this car for 1 year is more than \$4000.
- H The total cost of leasing this car for 2 years is \$4020.
- J The cost of leasing this car is greater than the cost of buying one.

50.

Which of the following equations represents a graph that is parallel to the graph of the equation $8x + 2y = 10$ and that has a y-intercept of 8?

- A $-4x + y = 5$
- B $4x + y = 8$
- C $8x - 2y = 10$
- D $8x + 2y = 4$

Parallel: must have the same slope and a y-intercept of 8. Use the formulas on page one for - A/B and C/B

51.

Which statement best describes the relationship between the graphs of the equations $y = \frac{2}{3}x - 4$ and $3x + 2y = 12$?

- A The graphs are two perpendicular lines.
- B The graphs are two parallel lines.
- C The graphs have the same y-intercept.
- D The graphs have the same x-intercept.

- Change $3x + 2y = 12$ to $y = mx + b$ form.
- Are the slopes the same? _____
- Is the y intercepts the same? _____
- If they are perpendicular they must have opposite sign slopes...Do they? _____
- Are the slopes the reciprocal? _____

52.

Which equation describes the line that passes through the point (4, 7) and is parallel to the line represented by the equation $-3x + y = 4$?

F $y = -3x + 19$

G $y = 3x - 5$

H $y = \frac{1}{3}x + 5\frac{2}{3}$

J $y = -\frac{1}{3}x + 8\frac{1}{3}$

Hummm.....

Would it help to see if the point (4, 7) is on each line?

Use the y= program and look at the table of values.

Now change our given equation into slope-intercept form.

$-3x + y = 4$ change to $y = mx + b$

Parallel lines must have slopes that are _____

53.

Which table identifies points on the line defined by the equation $y - 5x = -9$?

A

x	y
-5	-34
-2	-19
1	-9
2	11
7	26

C

x	y
-4	-29
-1	-14
1	-4
3	6
6	21

B

x	y
-6	-39
-5	-34
1	-14
4	10
7	24

D

x	y
-7	-44
-3	-23
0	9
4	13
6	21

MIDPOINT

The midpoint formula is on the chart:

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

54.

The midpoint of \overline{AB} is M . If the coordinates of M are $(\frac{1}{2}, -2)$ and the coordinates of B are $(6, 1)$, what are the coordinates of A ?

A $(-5, -5)$

B $(2, -10)$

C $(-3\frac{1}{4}, -1\frac{1}{2})$

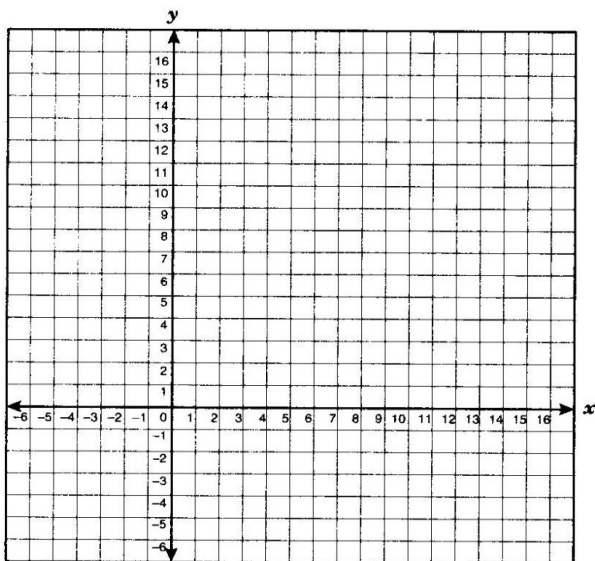
D $(-5, 5)$

Here we have one point and the midpoint. So, substitute.

$$\frac{1}{2} = \frac{x + 6}{2} \text{ and } -2 = \frac{y + 1}{2}$$

55.

The midpoint of \overline{RS} is $(8, 5)$. If one endpoint, point S , has the coordinates $(3, -5)$, what are the coordinates of point R , the other endpoint of \overline{RS} ?



A $(5.5, 0)$

B $(-3, 5)$

C $(11, 0)$

D $(13, 15)$