1. Which equation best represents the graph shown below?

$b = 6$
-5 $m = -5$
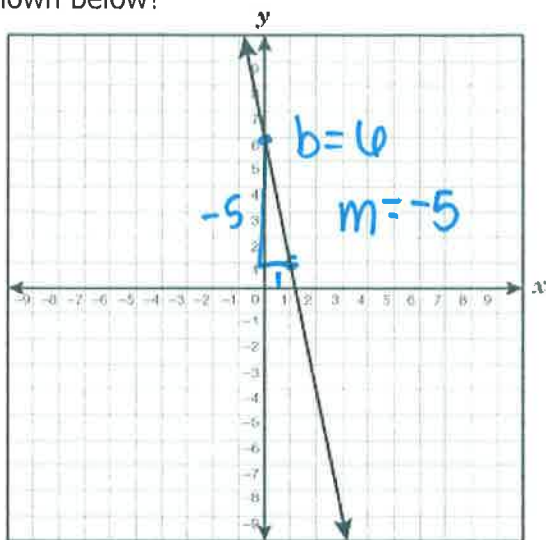
A. $y = 5x + 6$ B. $5x - y = 6$ $-y = -5x + 6$ $y = 5x - 6$

C. $y - 6 = -5x$ D. $y - 1 = 5(x - 1)$

$y = -5x + 6$ $m = 5$

2. Write a linear function that includes the points (1, 2) and (3, -2) in slope-intercept form. **STAT**

x	y
1	2
3	-2

$y = -2x + 4$

3. Alex and Millie are selling kites from their store near the beach. Each day more people stop to look at and buy the kites. Alex and Millie kept the following record comparing the number of customers that stopped to look at their kites to the amount of money they collected in sales each day.

L_1
L_2

Number of Customers	12	18	24	30
Amount of Sales (dollars)	180	210	240	270

A) Write the equation that represents this situation.

$y = 5x + 120$

B) If this trend continues, how many customers will need to stop and look at Alex and Millie's kites in order for their sales in one day to reach $420? $y = 420$

$420 = 5x + 120$
$-120 \quad\quad -120$
$300 = 5x$
$x = 60 \text{ people}$

4. Write the equation of the line that passes through the point (-4, 9) and is parallel to the line $x = 5$.   same slope!

VUX

$x = -4$

5. A television station was conducting a poll to determine the most popular newscaster on the evening news. People called in to vote for their favorite newscasters and to explain why they were so popular. The cost of the call was $0.50 for the first minute and $0.25 for each additional minute. Which inequality represents the number of minutes, m, it would take for a call to cost at least three dollars?

A. $3.00 \geq 0.50 + 0.25(m - 1)$ $.50 + .25(m-1) \geq 3$

B. $3.00 \geq 0.50 + 0.25m$

C. $3.00 \leq 0.50 + 0.25m$

D. $3.00 \leq 0.50 + 0.25(m - 1)$

6. Write an equation in slope-intercept form

STAT

x	y
-14	18
-7	15
7	9

$+7 \searrow -3$
$+14 \nearrow -6$

$m = -\frac{3}{7}$

$y = -\frac{3}{7}x + 12$

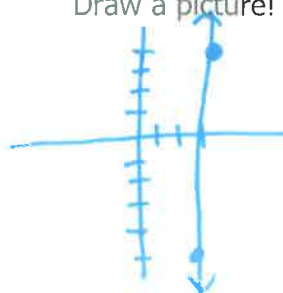7. Write an equation perpendicular to $x = 5$ through the point (-10, 3)   flippin' opposite

$y = 3$
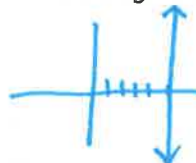
$\perp$ to VUX → HOY!

8. The slope of a line passing through (-3, 4) and (x, -5) is undefined. Find the value of x. HINT: Draw a picture!

VUX

$x = -3$

9. Which equation represents the linear function represented in the table below.

x	y
0	3
10	5
15	6

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

A. $2x - 5y = -15$

B. $2x - 5y = -3$

C. $2x + 5y = -15$

D. $2x + 5y = -3$

For questions like this, solve each answer choice OR check points by plugging in.

10. Write an equation in slope-intercept form for the line that passes through (5, 0) and is perpendicular to the line described by

$y = -\frac{5}{2}x + 6$ *flippin' opposite* $m_\perp = \frac{2}{5}$

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

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

C. $y = -\frac{5}{2}x + \frac{25}{2}$

D. $y = \frac{5}{2}x - \frac{25}{2}$

11. Write an equation in slope-intercept form for the line that passes through (0, -1) and is parallel to the line described by $4x - 2y = 8$.

$-4x \qquad -4x$

$\frac{-2y}{-2} = \frac{-4x + 8}{-2}$

$y = 2x - 4$

$\parallel m = 2$

$b = -1$

A. $y = 2x - 4$

B. $y = -2x - 4$

C. $y = 2x - 1$

D. $y = -2x - 1$

12. Write an equation describing the line that is parallel to the x-axis and is 8 units above the x-axis. HINT: Draw a picture.

$y = 8$

13. The members of a school choir had a fundraising drive last month. They sold candy bars for $2 each and cans of popcorn for $5 each. Derek sold more than $300 worth of candy and popcorn altogether. Which of the following points could not reasonably represent the number of candy bars, x, and cans of popcorn, y, sold by Derek last month?

$2x + 5y > 300$

A. (30, 90) 510

B. (40, 80) 480

C. (20, 50) 290

D. (50, 60) 400

Plug in!

14. Dara is going to visit a college campus before deciding where she will attend. She left her house at 12PM. At 1 o'clock, she is 300 miles from her destination. Two hours later, she is 180 miles from the college.

x	y
1	300
3	180

A. What is the equation for this situation?

$y = -60x + 360$

B. What is the y-intercept of the line and what does it represent in this situation?

· 360 miles
· how far the college is (BEGINNING)

C. What is the slope of the line and what does it represent in this situation?

· -60 mph
· traveling AWAY @ 60 mph

15. Joe purchased a $25 meal ticket to use to eat lunch in his school cafeteria. Each time he purchases a lunch, L, $2.50 is deducted from his meal ticket balance, b. Write an equation in slope-intercept form that describes b in terms of L?

$b = 25 - 2.50L$

16. The library at the school that Kent attends charges a fine of $0.05 per day for overdue books. Which of these could be used to determine f, the fine for an overdue book, per d, days that it is overdue?
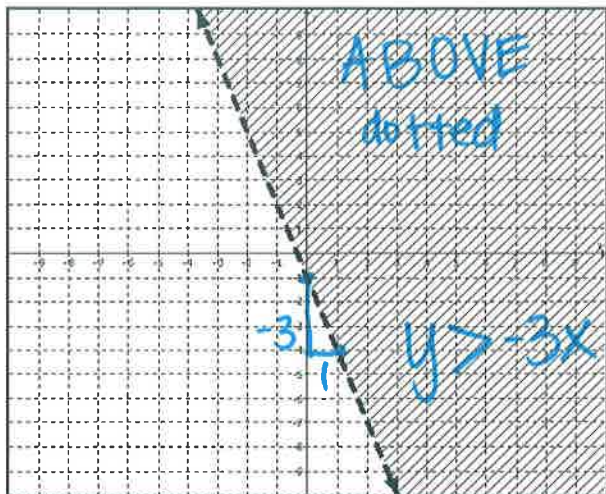
A. $f = 0.05d$

B. $f = 0.05 + d$

C. $f = d - 0.05$

D. $f = d + 0.05$

17. Which inequality represents the following graph?

ABOVE dotted

-3↓ y > -3x -1

Solve for y!

A. $3x + y < -1$

B. $3x + y > -1$ ⟵ (circled)

C. $-3x + y \leq -1$

D. $3x + y \geq -1$

18. Given A (5, 2) B (-1, 4) and C (6, -5). Write the equation of the line which passes through C and is parallel to line $\overline{AB}$.

m_{AB}

$$\begin{array}{c|c} x & y \\ \hline 5 & 2 \\ -1 & 4 \end{array}$$

$-6 \swarrow \quad \searrow +2$

$m_{\overline{AB}} = \dfrac{2}{-6} = \dfrac{-1}{3}$

$(6, -5)$

point-slope!

$y - (-5) = -\dfrac{1}{3}(x - 6)$

$y + 5 = -\dfrac{1}{3}(x - 6)$

19. The drill team at Ace High School has been invited to march in the New Year's Day parade. They plan to sell candy to raise the money they need in order to march. ~~Each candy bar sells for $1.25, not including tax.~~ Their profit is $0.60 on each candy bar. Write an equation to find the number of candy bars, c, the drill team needs to sell to make a profit of $800.
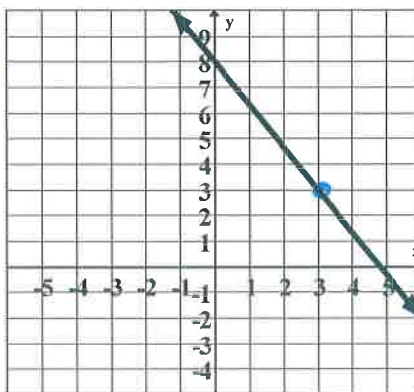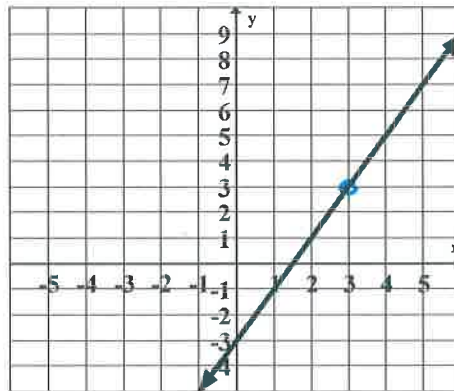
$.60 X = 800$

20. Which describes a line passing through (3, 3) that is perpendicular to the line described by

$y = \dfrac{3}{5}x + 2$? $m = \dfrac{3}{5}$ $\perp m = \dfrac{-5}{3}$

~~a.~~ $y = \dfrac{5}{3}x - 2$

~~b.~~ $y = -\dfrac{3}{5}x + \dfrac{6}{5}$

✗

d. (circled)

21. Sarah wants to buy shirts for her school's graduation party. A company will make the shirts for $10.50 each plus a $50 setup charge. The equation, $C = 10.50x + 50$ represents C, the total cost for x number of shirts purchased. If Sarah has $1000, which inequality could she use to find the maximum number of shirts she can buy? Solve the inequality.

$10.50x + 50 \leq 1000$

A $1000 \leq 10.50x + 50$

B $1000 \geq 10.50x + 50$ ⟵ (circled)

C $100 < 10.50x + 50$

D $1000 > 10.50x + 50$