Answers to 1.1

Section 1.1 Precalculus Name _____

Worksheet 2 Period _____

Let $f(x) = 2x^2 - 1$

1. Find $f(-3)$ =

$2(-3)^2 - 1$

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2. Find $2f(1)$ =

$2(2 \cdot 1^2 - 1) = 2$

#3-6 Write an equation for each described line. You may write your answer in any one of the three formats that we have studied.

3. through (-4, 5) and (2, -3)

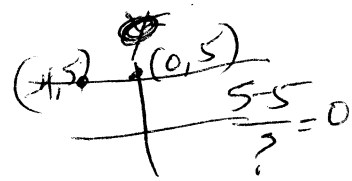
$\frac{5+3}{-4-2} = \frac{8}{-6} = \frac{-4}{3}$

$y+3 = \frac{-4}{3}(x-2)$ OR

$y-5 = \frac{-4}{3}(x+4)$

4. through (-4, 5) and horizontal

$y=5$



5. through (2, - 3) and parallel to y = 2x + 7

$y+3 = 2(x-2)$

6. through (0, 4) and (-3, 0)

$\frac{4}{3}$

$y = \frac{4}{3}x + 4$

$y-4 = \frac{4}{3}(x-0)$

$y = \frac{4}{3}(x+3)$

or

7. Write the equation for a direct variation line containing the point (3, 7).

$y = \frac{7}{3}x$

For the direct variation, find the constant of variation. Then find the value of ***y*** when $x = -3$.

8. $y=2$ when $x = -\frac{1}{4}$

$-4 \cdot 2 = k \cdot -\frac{1}{4} \cdot -4$

$k = -8$

$y = -8x$

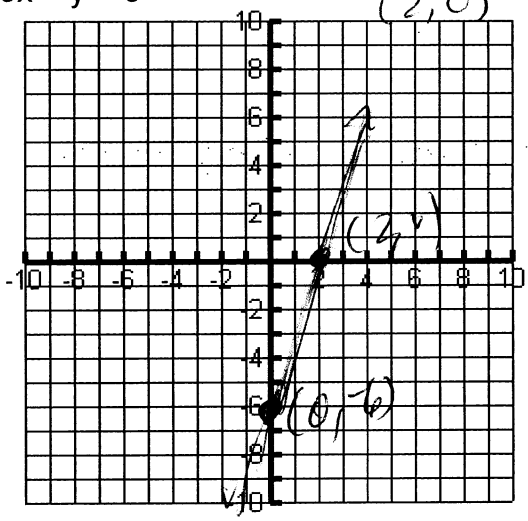
$y = -8 \cdot -3$

$y = 24$

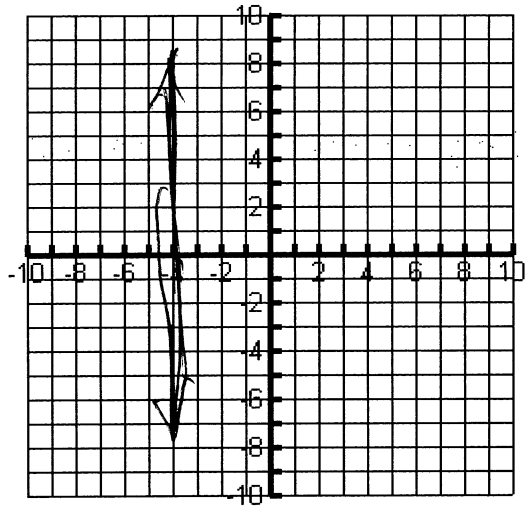
Accurately graph the following.

9. $3x - y = 6$

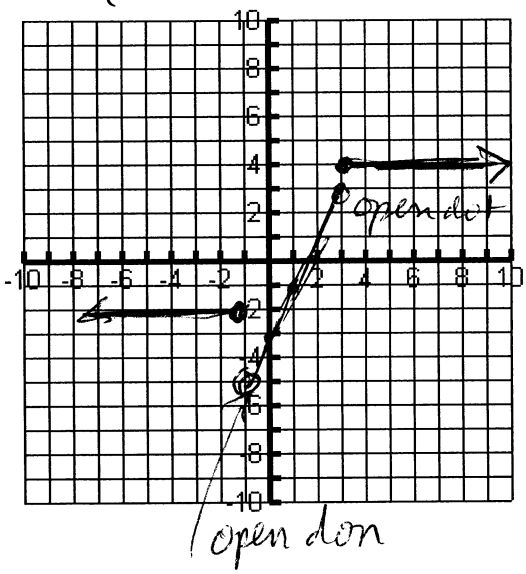
(0, -6)
(2, 0)



10. $x = -4$

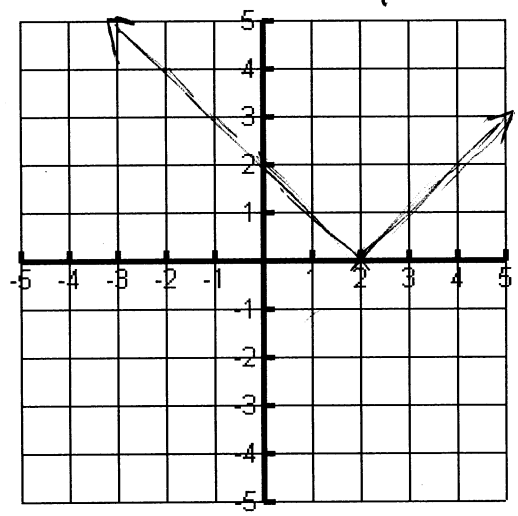


11. $f(x) = \begin{cases} 4; & \text{if } x \geq 3 \\ 2x - 3; & \text{if } -1 < x < 3 \\ -2; & \text{if } x \leq -1 \end{cases}$



12. $f(x) = |x - 2|$

$f(x) = \begin{cases} -x+2, & \text{if } x \leq 2 \\ x-2, & \text{if } x > 2 \end{cases}$



13. Change to slope-intercept form:

$2x - 3y = 1$

$-3y = -2x + 1$

$y = \frac{2}{3}x - \frac{1}{3}$

14. Change $f(x) = |3x - 4|$ into a piecewise function

vertex $= \left(\frac{-4}{3}, 0\right)$

slope $= 3$

$f(x) = \begin{cases} -3x+4 & \text{if } x \leq -\frac{4}{3} \\ 3x-4 & \text{if } x > -\frac{4}{3} \end{cases}$