

6-10 strong
3-5.5 some gaps
under 3 more gaps

Complete each problem to the best of your ability. If you don't even know where to begin, mark the circle for that problem.

1. Simplify: $(3x^2 + 4x - 7) - (x^2 - 2x + 1)$

I have no idea how to do this problem

subtraction - distribute the \ominus

$$\begin{array}{r} 3x^2 + 4x - 7 \\ - x^2 + 2x - 1 \\ \hline 2x^2 + 6x - 8 \end{array}$$

2. Evaluate the expression for $p = -2$: $p^2 - 3p + 1$

I have no idea how to do this problem

$$\begin{array}{c} \uparrow \quad \uparrow \\ (-2)^2 - 3(-2) + 1 \\ 4 + 6 + 1 = 11 \end{array}$$

3. Solve: $9x - 4x - 21 = 9$

I have no idea how to do this problem

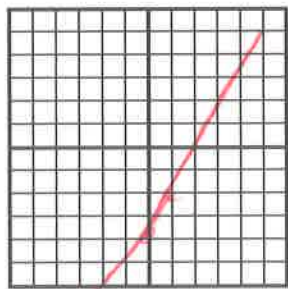
isolate x

$$\begin{array}{l} \text{L} \\ 5x - 21 = 9 \\ +21 \quad +21 \\ 5x = 30 \\ x = 6 \end{array}$$

divide by ~~5~~

4. Graph the equation: $y = 2x - 4$

I have no idea how to do this problem



slope \uparrow intercept \nwarrow
 $m = \frac{2}{1} = \frac{2 \text{ up}}{1 \text{ right}}$

5. If 200 students applied for a scholarship, but only 40% of the students received one, how many students received a scholarship?

I have no idea how to do this problem

40% of 200
 $(.4)(200) = 80$

1. (4 pts) Find the equation of the line passing through the points (3, -1) and (5, 0).

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{0 - (-1)}{5 - 3} = \frac{1}{2}$$

Point: I choose (5, 0)

$$y - y_1 = m(x - x_1)$$

$$y - 0 = \frac{1}{2}(x - 5) \Rightarrow y = \frac{1}{2}x - \frac{5}{2}$$

Final form: slope-intercept
or General

2. (6 points) A case of 24 sodas costs \$10. A kid sells the sodas for \$2 each at a soccer game.

- a) Write a function to describe this relationship, where $P(x)$ is the total profit, and x is the number of sodas sold.

$$P(x) = 2x - 10$$

Let $x = \#$ of sodas sold

- b) What is the break-even point?

$$\text{Profit} = 0$$

$$P(x) = \boxed{0 = 2x - 10}$$

Solve for x

$$2x = 10$$

$$x = 5 \text{ sodas}$$

- c) The soccer game ends, and only 17 sodas were sold. Write "the profit of selling 17 sodas" in function notation, and calculate the value.

$$P(17) = 2(17) - 10 = \$24$$

↗
profit of 17 sodas