

STARTER 1.7

Determine whether the graphs of each pair of equations are *parallel, coinciding, perpendicular, or none of these*.

1. $x - 2y = 8$
 $3x - 6y = 24$
Answer: parallel

2. $2x - y = 9$
 $-4x - 2y = 18$
Answer: none of these

3. Write the ~~the standard~~ ^{ANY} form of the equation of the line that passes through the point at $(2, -5)$ and is parallel to the graph of $3x - 2y + 12 = 0$.
Answer: $3x - 2y - 16 = 0$

4. Write the ~~the standard~~ ^{ANY} form of the equation of the line that passes through the point at $(-4, 2)$ and is perpendicular to the graph of $4x - 2y + 5 = 0$.
Answer: $x + 2y = 0$


1.7

Graphing Functions

- Piece-wise functions
- Absolute Value Functions
- Greatest Integer Functions (Step)

Lesson 1.7

Piecewise Functions



What does a piecewise, step and absolute value function look like?

Vocabulary

- Piecewise function
- Step function
- Greatest integer function
- Absolute value function

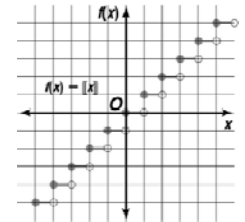
Common "Parent" Functions

- On multi-graph paper, sketch the graph of each of the following making sure to include the following:
 - Equation of graph
 - Label x and y-axes
 - Indicate scale on each axis

$y = x$	$y = x^2$	$y = x^3$	$y = x $
Linear	quadratic	cubic	absolute value

Greatest Integer Function

- $y = [x]$
- Returns the greatest integer value less than or equal to x.



Translation of graphs (shifting graphs.)

- Addition and subtraction changes the position of a graph.
- Multiplication and division changes the shape of a graph.
- Graph the following without your calculator first by guessing the translation.
 - $y = |x| + 2$
 - $y = |x| - 1$
 - $y = |x + 1|$
 - $y = |x - 2|$
 - $y = |x + 3| - 1$
 - $y = -|x| + 1$

