

# Graphing Review Worksheet

Math Tutorial Lab Special Topic\*

## Example Problems

Find the slope-intercept equation of the line that passes through points.

1.  $(-1, 3), (2, 3)$
2.  $(-2, 1), (2, -4)$

Find the slope of the line, and sketch its graph.

3.  $3x - y = 2$
4.  $-3x - 4y = 2$
5.  $y = 3$
6.  $x = 1$

Express the quadratic in vertex form.

7.  $f(x) = x^2 - 6x + 7$
8.  $f(x) = -x^2 + 4x + 6$

Sketch the graph.

9.  $y = (x + 1)^2 - 1$
10.  $y = -x^2 - 2x$  (Hint: Complete the square to put this in vertex form.)
11.  $y = \frac{1}{2}x^2 - x + 3$  (Hint: Complete the square to put this in vertex form.)
12.  $y = -(x + 3)^3 - 1$
13.  $y = 3(x - 2)^3$
14.  $y = \sqrt{x + 2} - 2$
15.  $y = \sqrt{2 - x} - 1$  (Hint: Factor out the negative under the square root first:  $\sqrt{-(x - 2)}$ .)
16.  $f(x) = \begin{cases} x^2 + 2, & \text{if } x < 0 \\ \sqrt{x} - 1, & \text{if } x \geq 0. \end{cases}$
17.  $f(x) = \begin{cases} 2 - x, & \text{if } x < 2 \\ (x - 2)^3, & \text{if } x \geq 2. \end{cases}$

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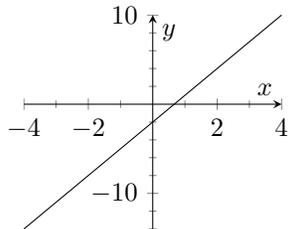
\*Created by Maria Gommel, June 2014.

# Answers

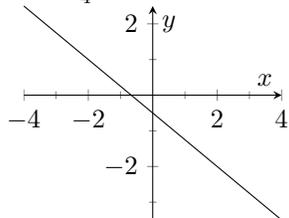
1.  $y = 3$

2.  $y = -\frac{5}{4}x - \frac{3}{2}$

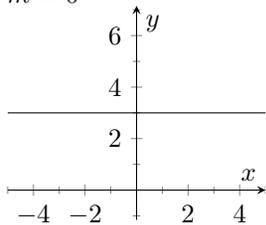
3.  $m = 3$



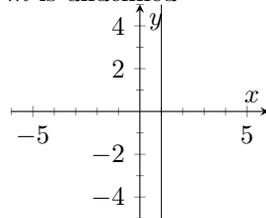
4.  $m = -\frac{3}{4}$



5.  $m = 0$



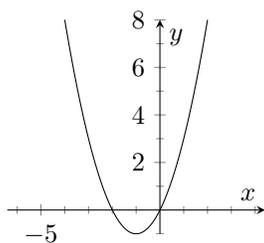
6.  $m$  is undefined



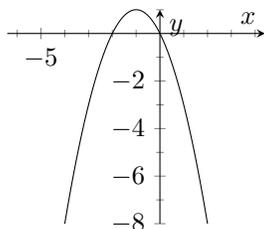
7.  $f(x) = (x - 3)^2 - 2$

8.  $f(x) = -(x - 2)^2 + 10$

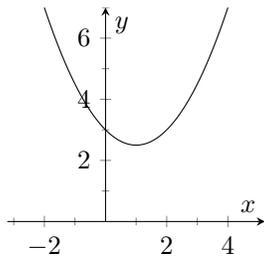
9.



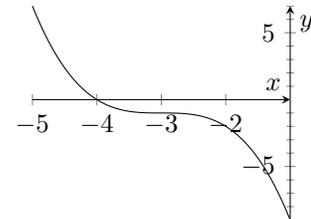
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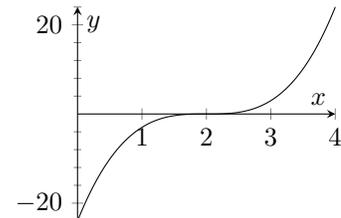
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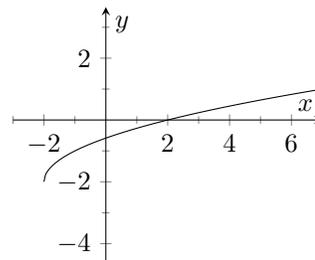
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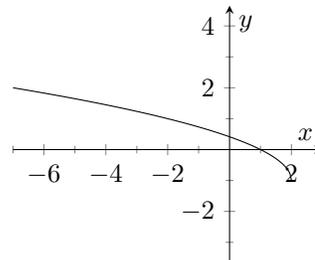
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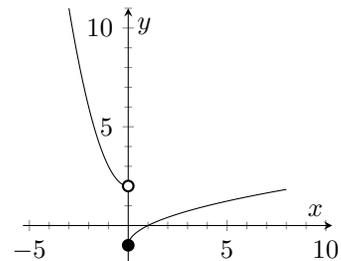
14.



15.



16.



17.

