

Name: Answer Key

Date: \_\_\_\_\_

### General and Function Form

For the given equations, solve for the x-intercept, y-intercept, and rate of change.

<p>1. <math>y = 3x + 4</math></p> <p>x-inter → make <math>y=0</math> <math>0 = 3x + 4</math> <math>\frac{-3x}{-3} = \frac{4}{-3}</math> <math>x = -\frac{4}{3}</math></p> <p>y-inter → make <math>x=0</math> <math>y = 3(0) + 4</math> <math>y = 0 + 4</math> <math>y = 4</math></p> <p>x-intercept: <math>(-\frac{4}{3}, 0)</math></p> <p>y-intercept: <math>(0, 4)</math></p> <p>rate of change: <u>3</u></p>	<p>2. <math>3x + 2y + 12 = 0</math></p> <p>x-inter make <math>y=0</math> <math>3x + 2(0) + 12 = 0</math> <math>3x + 0 + 12 = 0</math> <math>\frac{3x}{3} = \frac{-12}{3}</math> <math>x = -4</math></p> <p>y-inter make <math>x=0</math> <math>3(0) + 2y + 12 = 0</math> <math>0 + 2y + 12 = 0</math> <math>\frac{2y}{2} = \frac{-12}{2}</math> <math>y = -6</math></p> <p>x-intercept: <math>(-4, 0)</math></p> <p>y-intercept: <math>(0, -6)</math></p> <p>rate of change: <u><math>-\frac{3}{2}</math></u></p>
<p>3. <math>y = (-\frac{2}{3})x + 12</math></p> <p>x-inter make <math>y=0</math> <math>0 = -\frac{2}{3}x + 12</math> <math>\frac{2x}{2} = \frac{36}{2}</math> <math>x = 18</math></p> <p>y-inter make <math>x=0</math> <math>y = -\frac{2}{3}(0) + 12</math> <math>y = 0 + 12</math> <math>y = 12</math></p> <p>x-intercept: <math>(18, 0)</math></p> <p>y-intercept: <math>(0, 12)</math></p> <p>rate of change: <u><math>-\frac{2}{3}</math></u></p>	<p>4. <math>y = (\frac{5}{3})x - 5</math></p> <p>x-inter make <math>y=0</math> <math>0 = \frac{5}{3}x - 5</math> <math>\frac{-5x}{-5} = \frac{-15}{-5}</math> <math>x = 3</math></p> <p>y-inter make <math>x=0</math> <math>y = \frac{5}{3}(0) - 5</math> <math>y = 0 - 5</math> <math>y = -5</math></p> <p>x-intercept: <math>(3, 0)</math></p> <p>y-intercept: <math>(0, -5)</math></p> <p>rate of change: <u><math>\frac{5}{3}</math></u></p>

<p>5. <math>y = 5x + 125</math></p> <p>x-inter ↳ make <math>y=0</math> <math>0 = 5x + 125</math> <math>-5x = 125</math> <math>\frac{-5}{-5} \frac{125}{-5}</math> <math>x = -25</math></p> <p>y-inter ↳ make <math>x=0</math> <math>y = 5(0) + 125</math> <math>y = 0 + 125</math> <math>y = 125</math></p> <p>x-intercept: ( <u>-25</u> , <u>0</u> )</p> <p>y-intercept: ( <u>0</u> , <u>125</u> )</p> <p>rate of change: <u>5</u></p>	<p>6. <math>x + 7y - 28 = 0</math></p> <p>x-inter ↳ make <math>y=0</math> <math>x + 7(0) - 28 = 0</math> <math>x - 28 = 0</math> <math>x = 28</math></p> <p>y-inter ↳ make <math>x=0</math> <math>0 + 7y - 28 = 0</math> <math>7y - 28 = 0</math> <math>\frac{7y}{7} = \frac{28}{7}</math> <math>y = 4</math></p> <p>x-intercept: ( <u>28</u> , <u>0</u> )</p> <p>y-intercept: ( <u>0</u> , <u>4</u> )</p> <p>rate of change: <u><math>-\frac{1}{7}</math></u></p> <p><math>\frac{7y}{7} = \frac{-x+28}{7}</math> <math>y = -\frac{1}{7}x + 4</math></p>
<p>7. <math>x - 2y + 3 = 0</math></p> <p>x-inter ↳ make <math>y=0</math> <math>x - 2(0) + 3 = 0</math> <math>x - 0 + 3 = 0</math> <math>x + 3 = 0</math> <math>x = -3</math></p> <p>y-inter ↳ make <math>x=0</math> <math>0 - 2y + 3 = 0</math> <math>-2y + 3 = 0</math> <math>-2y = -3</math> <math>\frac{-2y}{-2} = \frac{-3}{-2}</math> <math>y = \frac{3}{2}</math></p> <p>x-intercept: ( <u>-3</u> , <u>0</u> )</p> <p>y-intercept: ( <u>0</u> , <u><math>\frac{3}{2}</math></u> )</p> <p>rate of change: <u><math>\frac{1}{2}</math></u></p> <p><math>x - 2y + 3 = 0</math> <math>-2y = -x - 3</math> <math>\frac{-2y}{-2} = \frac{-x-3}{-2}</math> <math>y = \frac{1}{2}x + \frac{3}{2}</math></p>	<p>8. <math>y = -6x + 10</math></p> <p>x-inter make <math>y=0</math> <math>0 = -6x + 10</math> <math>\frac{6x}{6} = \frac{10}{6}</math> <math>x = \frac{5}{3}</math></p> <p>y-inter make <math>x=0</math> <math>y = -6(0) + 10</math> <math>y = 0 + 10</math> <math>y = 10</math></p> <p>x-intercept: ( <u><math>\frac{5}{3}</math></u> , <u>0</u> )</p> <p>y-intercept: ( <u>0</u> , <u>10</u> )</p> <p>rate of change: <u>-6</u></p>
<p>9. <math>2x + 3y - 9 = 0</math></p> <p>x-inter make <math>y=0</math> <math>2x + 3(0) - 9 = 0</math> <math>2x - 9 = 0</math> <math>\frac{2x}{2} = \frac{9}{2}</math> <math>x = \frac{9}{2}</math></p> <p>y-inter make <math>x=0</math> <math>2(0) + 3y - 9 = 0</math> <math>3y = 9</math> <math>\frac{3y}{3} = \frac{9}{3}</math> <math>y = 3</math></p> <p>x-intercept: ( <u><math>\frac{9}{2}</math></u> , <u>0</u> )</p> <p>y-intercept: ( <u>0</u> , <u>3</u> )</p> <p>rate of change: <u><math>-\frac{2}{3}</math></u></p> <p><math>2x + 3y - 9 = 0</math> <math>\frac{3y}{3} = \frac{-2x+9}{3}</math> <math>y = -\frac{2}{3}x + 3</math></p>	<p>10. <math>5x + 6y - 10 = 0</math></p> <p>x-inter make <math>y=0</math> <math>5x + 6(0) - 10 = 0</math> <math>5x - 10 = 0</math> <math>\frac{5x}{5} = \frac{10}{5}</math> <math>x = 2</math></p> <p>y-inter make <math>x=0</math> <math>5(0) + 6y - 10 = 0</math> <math>6y - 10 = 0</math> <math>\frac{6y}{6} = \frac{10}{6}</math> <math>y = \frac{5}{3}</math></p> <p>x-intercept: ( <u>2</u> , <u>0</u> )</p> <p>y-intercept: ( <u>0</u> , <u><math>\frac{5}{3}</math></u> )</p> <p>rate of change: <u><math>-\frac{5}{6}</math></u></p> <p><math>5x + 6y - 10 = 0</math> <math>\frac{6y}{6} = \frac{-5x+10}{6}</math> <math>y = -\frac{5}{6}x + \frac{5}{3}</math></p>