

Name _____
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Date _____
Geometry

Equations of Lines Review

1. What is an equation of the line that is perpendicular to the line whose equation is $y = \frac{3}{5}x - 2$ and that passes through the point $(3, -6)$?

1) $y = \frac{5}{3}x - 11$

3) $y = -\frac{5}{3}x - 1$

2) $y = -\frac{5}{3}x + 11$

4) $y = \frac{5}{3}x + 1$

2. What is an equation of the line that passes through the point $(6, 8)$ and is perpendicular to a line with equation $y = \frac{3}{2}x + 5$?

1) $y - 8 = \frac{3}{2}(x - 6)$

3) $y + 8 = \frac{3}{2}(x + 6)$

2) $y - 8 = -\frac{2}{3}(x - 6)$

4) $y + 8 = -\frac{2}{3}(x + 6)$

3. The equation of a line is $y = \frac{2}{3}x + 5$. What is an equation of the line that is perpendicular to the given line and that passes through the point $(4, 2)$?

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

3) $y = -\frac{3}{2}x + 7$

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

4) $y = -\frac{3}{2}x + 8$

4. What is an equation of a line which passes through $(6, 9)$ and is perpendicular to the line whose equation is $4x - 6y = 15$?

1) $y - 9 = -\frac{3}{2}(x - 6)$

3) $y + 9 = -\frac{3}{2}(x + 6)$

2) $y - 9 = \frac{2}{3}(x - 6)$

4) $y + 9 = \frac{2}{3}(x + 6)$

5. The line $y = \frac{1}{2}x - 2$ is dilated by a scale factor of 2 centered at the origin. Write an equation that represents the image of the line after the dilation.

1) $y = \frac{1}{2}x - 4$ 3) $y = x - 4$

2) $y = \frac{1}{2}x - 2$ 4) $y = x - 2$

6. The line $y = \frac{1}{2}x - 2$ is dilated by a scale factor of 2 and centered at (0,-2). Write an equation that represents the image of the line after the dilation.

1) $y = \frac{1}{2}x - 4$ 3) $y = x - 4$

2) $y = \frac{1}{2}x - 2$ 4) $y = x - 2$

7. The line $y = 2x - 4$ is dilated by a scale factor of $\frac{3}{2}$ and centered at the origin. Which equation represents the image of the line after the dilation?

1) $y = 2x - 4$

2) $y = 2x - 6$

3) $y = 3x - 4$

4) $y = 3x - 6$

8. The equation of line h is $2x + y = 1$. Line m is the image of line h after a dilation of scale factor 4 with respect to the origin. What is the equation of the line m ?

1) $y = -2x + 1$

2) $y = -2x + 4$

3) $y = 2x + 4$

4) $y = 2x + 1$

9. The line $y = -5x - 1$ is dilated by a scale factor of 2 and centered at the (0,-1). Write an equation that represents the image of the line after the dilation.

1) $y = -5x - 1$

2) $y = -5x - 2$

3) $y = 10x - 1$

4) $y = 10x - 2$