



## Identifying Point of Intersection with Equations

Name: \_\_\_\_\_

For each system of equations determine the point of intersection in a graph.

1) 
$$\begin{cases} y = 0.1x + 2 \\ y = 0.5x - 2 \end{cases}$$

2) 
$$\begin{cases} y = -1.3x + 5 \\ y = -0.4x - 4 \end{cases}$$

3) 
$$\begin{cases} y = -0.2x + 8 \\ y = 1.5x - 9 \end{cases}$$

4) 
$$\begin{cases} y = -4.25x + 8 \\ y = -2.5x + 1 \end{cases}$$

5) 
$$\begin{cases} y = -1.5x - 3 \\ y = -0.5x + 5 \end{cases}$$

6) 
$$\begin{cases} y = 0.3x - 9 \\ y = -0.5x - 1 \end{cases}$$

7) 
$$\begin{cases} y = 0.3x + 1 \\ y = 0.5x - 1 \end{cases}$$

8) 
$$\begin{cases} y = -0.2x + 0 \\ y = 0.4x - 6 \end{cases}$$

9) 
$$\begin{cases} y = -1.5x + 1 \\ y = -3.5x - 3 \end{cases}$$

10) 
$$\begin{cases} y = -0.25x - 2 \\ y = -0.5x + 0 \end{cases}$$

Answers

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

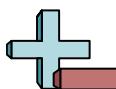
6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_



## Identifying Point of Intersection with Equations

Name: **Answer Key**

For each system of equations determine the point of intersection in a graph.

1) 
$$\begin{cases} y = 0.1x + 2 \\ y = 0.5x - 2 \end{cases}$$

$$\begin{aligned} 0.1x+2 &= 0.5x-2 \\ -0.4x &= -4 \\ 1x &= 10 \\ y &= (0.1 \times 10) + 2 \\ y &= (0.5 \times 10) - 2 \end{aligned}$$

2) 
$$\begin{cases} y = -1.3x + 5 \\ y = -0.4x - 4 \end{cases}$$

$$\begin{aligned} -1.3x+5 &= -0.4x-4 \\ -0.9x &= -9 \\ 1x &= 10 \\ y &= (-1.3 \times 10) + 5 \\ y &= (-0.4 \times 10) - 4 \end{aligned}$$

3) 
$$\begin{cases} y = -0.2x + 8 \\ y = 1.5x - 9 \end{cases}$$

$$\begin{aligned} -0.2x+8 &= 1.5x-9 \\ -1.7x &= -17 \\ 1x &= 10 \\ y &= (-0.2 \times 10) + 8 \\ y &= (1.5 \times 10) - 9 \end{aligned}$$

4) 
$$\begin{cases} y = -4.25x + 8 \\ y = -2.5x + 1 \end{cases}$$

$$\begin{aligned} -4.25x+8 &= -2.5x+1 \\ -1.75x &= -7 \\ 1x &= 4 \\ y &= (-4.25 \times 4) + 8 \\ y &= (-2.5 \times 4) + 1 \end{aligned}$$

5) 
$$\begin{cases} y = -1.5x - 3 \\ y = -0.5x + 5 \end{cases}$$

$$\begin{aligned} -1.5x-3 &= -0.5x+5 \\ -1x &= 8 \\ 1x &= -8 \\ y &= (-1.5 \times -8) - 3 \\ y &= (-0.5 \times -8) + 5 \end{aligned}$$

6) 
$$\begin{cases} y = 0.3x - 9 \\ y = -0.5x - 1 \end{cases}$$

$$\begin{aligned} 0.3x-9 &= -0.5x-1 \\ 0.8x &= 8 \\ 1x &= 10 \\ y &= (0.3 \times 10) - 9 \\ y &= (-0.5 \times 10) - 1 \end{aligned}$$

7) 
$$\begin{cases} y = 0.3x + 1 \\ y = 0.5x - 1 \end{cases}$$

$$\begin{aligned} 0.3x+1 &= 0.5x-1 \\ -0.2x &= -2 \\ 1x &= 10 \\ y &= (0.3 \times 10) + 1 \\ y &= (0.5 \times 10) - 1 \end{aligned}$$

8) 
$$\begin{cases} y = -0.2x + 0 \\ y = 0.4x - 6 \end{cases}$$

$$\begin{aligned} -0.2x+0 &= 0.4x-6 \\ -0.6x &= -6 \\ 1x &= 10 \\ y &= (-0.2 \times 10) + 0 \\ y &= (0.4 \times 10) - 6 \end{aligned}$$

9) 
$$\begin{cases} y = -1.5x + 1 \\ y = -3.5x - 3 \end{cases}$$

$$\begin{aligned} -1.5x+1 &= -3.5x-3 \\ 2x &= -4 \\ 1x &= -2 \\ y &= (-1.5 \times -2) + 1 \\ y &= (-3.5 \times -2) - 3 \end{aligned}$$

10) 
$$\begin{cases} y = -0.25x - 2 \\ y = -0.5x + 0 \end{cases}$$

$$\begin{aligned} -0.25x-2 &= -0.5x+0 \\ 0.25x &= 2 \\ 1x &= 8 \\ y &= (-0.25 \times 8) - 2 \\ y &= (-0.5 \times 8) + 0 \end{aligned}$$

**Answers**1. **(10, 3)**2. **(10, -8)**3. **(10, 6)**4. **(4, -9)**5. **(-8, 9)**6. **(10, -6)**7. **(10, 4)**8. **(10, -2)**9. **(-2, 4)**10. **(8, -4)**