Identifying Point of Intersection with Equations

Name:

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

1) $\begin{cases} y = -0.25x - 9 \\ y = -0.5x - 8 \end{cases}$

2) $\begin{cases} y = 2.25x + 3 \\ y = 3.25x + 7 \end{cases}$

3) $\begin{cases} y = -0.2x + 3 \\ y = 0.9x - 8 \end{cases}$

4) $\begin{cases} y = -2.5x - 3 \\ y = -0.5x - 7 \end{cases}$

5) $\begin{cases} y = 1.5x + 7 \\ y = 3.5x + 3 \end{cases}$

6) $\begin{cases} y = -0.1x + 3 \\ y = -0.5x + 7 \end{cases}$

7) $\begin{cases} y = 0.25x + 1 \\ y = 0.75x - 3 \end{cases}$

8) $\begin{cases} y = -0.5x - 1 \\ y = 0.5x - 5 \end{cases}$

9) $\begin{cases} y = 3.5x - 9 \\ y = -0.25x + 6 \end{cases}$

10) $\begin{cases} y = -2.5x + 5 \\ y = -0.75x - 2 \end{cases}$

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

1-10	90	80	70	60	50	40	30	20	10	0

Identifying Point of Intersection with Equations Name: **Answer Key**

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

1) $\begin{cases} y = -0.25x - 9 \\ y = -0.5x - 8 \end{cases}$

$-0.25x - 9 = -0.5x - 8$
$0.25x = 1$
$1x = 4$
$y = (-0.25 \times 4) - 9$
$y = (-0.5 \times 4) - 8$

2) $\begin{cases} y = 2.25x + 3 \\ y = 3.25x + 7 \end{cases}$

$2.25x + 3 = 3.25x + 7$
$-1x = 4$
$1x = -4$
$y = (2.25 \times -4) + 3$
$y = (3.25 \times -4) + 7$

3) $\begin{cases} y = -0.2x + 3 \\ y = 0.9x - 8 \end{cases}$

$-0.2x + 3 = 0.9x - 8$
$-1.1x = -11$
$1x = 10$
$y = (-0.2 \times 10) + 3$
$y = (0.9 \times 10) - 8$

4) $\begin{cases} y = -2.5x - 3 \\ y = -0.5x - 7 \end{cases}$

$-2.5x - 3 = -0.5x - 7$
$-2x = -4$
$1x = 2$
$y = (-2.5 \times 2) - 3$
$y = (-0.5 \times 2) - 7$

5) $\begin{cases} y = 1.5x + 7 \\ y = 3.5x + 3 \end{cases}$

$1.5x + 7 = 3.5x + 3$
$-2x = -4$
$1x = 2$
$y = (1.5 \times 2) + 7$
$y = (3.5 \times 2) + 3$

6) $\begin{cases} y = -0.1x + 3 \\ y = -0.5x + 7 \end{cases}$

$-0.1x + 3 = -0.5x + 7$
$0.4x = 4$
$1x = 10$
$y = (-0.1 \times 10) + 3$
$y = (-0.5 \times 10) + 7$

7) $\begin{cases} y = 0.25x + 1 \\ y = 0.75x - 3 \end{cases}$

$0.25x + 1 = 0.75x - 3$
$-0.5x = -4$
$1x = 8$
$y = (0.25 \times 8) + 1$
$y = (0.75 \times 8) - 3$

8) $\begin{cases} y = -0.5x - 1 \\ y = 0.5x - 5 \end{cases}$

$-0.5x - 1 = 0.5x - 5$
$-1x = -4$
$1x = 4$
$y = (-0.5 \times 4) - 1$
$y = (0.5 \times 4) - 5$

9) $\begin{cases} y = 3.5x - 9 \\ y = -0.25x + 6 \end{cases}$

$3.5x - 9 = -0.25x + 6$
$3.75x = 15$
$1x = 4$
$y = (3.5 \times 4) - 9$
$y = (-0.25 \times 4) + 6$

10) $\begin{cases} y = -2.5x + 5 \\ y = -0.75x - 2 \end{cases}$

$-2.5x + 5 = -0.75x - 2$
$-1.75x = -7$
$1x = 4$
$y = (-2.5 \times 4) + 5$
$y = (-0.75 \times 4) - 2$

Answers

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

1-10	90	80	70	60	50	40	30	20	10	0