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

1) $\begin{cases} y = -0.2x - 2 \\ y = -0.4x - 4 \end{cases}$

2) $\begin{cases} y = -4.25x - 8 \\ y = -0.25x + 8 \end{cases}$

3) $\begin{cases} y = 3.5x + 5 \\ y = 3.25x + 4 \end{cases}$

4) $\begin{cases} y = 6.5x + 9 \\ y = 4.5x + 5 \end{cases}$

5) $\begin{cases} y = -2.5x - 8 \\ y = -0.5x - 4 \end{cases}$

6) $\begin{cases} y = 0.5x - 6 \\ y = 5.5x + 4 \end{cases}$

7) $\begin{cases} y = -0.1x + 5 \\ y = 0.6x - 2 \end{cases}$

8) $\begin{cases} y = 1.5x - 7 \\ y = 0.1x + 7 \end{cases}$

9) $\begin{cases} y = 0.3x - 5 \\ y = -0.3x + 1 \end{cases}$

10) $\begin{cases} y = 1.8x - 2 \\ y = 0.4x + 5 \end{cases}$

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) $\begin{cases} y = -0.2x - 2 \\ y = -0.4x - 4 \end{cases}$

$-0.2x - 2 = -0.4x - 4$
$0.2x = -2$
$1x = -10$
$y = (-0.2 \times -10) - 2$
$y = (-0.4 \times -10) - 4$

2) $\begin{cases} y = -4.25x - 8 \\ y = -0.25x + 8 \end{cases}$

$-4.25x - 8 = -0.25x + 8$
$-4x = 16$
$1x = -4$
$y = (-4.25 \times -4) - 8$
$y = (-0.25 \times -4) + 8$

3) $\begin{cases} y = 3.5x + 5 \\ y = 3.25x + 4 \end{cases}$

$3.5x + 5 = 3.25x + 4$
$0.25x = -1$
$1x = -4$
$y = (3.5 \times -4) + 5$
$y = (3.25 \times -4) + 4$

4) $\begin{cases} y = 6.5x + 9 \\ y = 4.5x + 5 \end{cases}$

$6.5x + 9 = 4.5x + 5$
$2x = -4$
$1x = -2$
$y = (6.5 \times -2) + 9$
$y = (4.5 \times -2) + 5$

5) $\begin{cases} y = -2.5x - 8 \\ y = -0.5x - 4 \end{cases}$

$-2.5x - 8 = -0.5x - 4$
$-2x = 4$
$1x = -2$
$y = (-2.5 \times -2) - 8$
$y = (-0.5 \times -2) - 4$

6) $\begin{cases} y = 0.5x - 6 \\ y = 5.5x + 4 \end{cases}$

$0.5x - 6 = 5.5x + 4$
$-5x = 10$
$1x = -2$
$y = (0.5 \times -2) - 6$
$y = (5.5 \times -2) + 4$

7) $\begin{cases} y = -0.1x + 5 \\ y = 0.6x - 2 \end{cases}$

$-0.1x + 5 = 0.6x - 2$
$-0.7x = -7$
$1x = 10$
$y = (-0.1 \times 10) + 5$
$y = (0.6 \times 10) - 2$

8) $\begin{cases} y = 1.5x - 7 \\ y = 0.1x + 7 \end{cases}$

$1.5x - 7 = 0.1x + 7$
$1.4x = 14$
$1x = 10$
$y = (1.5 \times 10) - 7$
$y = (0.1 \times 10) + 7$

9) $\begin{cases} y = 0.3x - 5 \\ y = -0.3x + 1 \end{cases}$

$0.3x - 5 = -0.3x + 1$
$0.6x = 6$
$1x = 10$
$y = (0.3 \times 10) - 5$
$y = (-0.3 \times 10) + 1$

10) $\begin{cases} y = 1.8x - 2 \\ y = 0.4x + 5 \end{cases}$

$1.8x - 2 = 0.4x + 5$
$1.4x = 7$
$1x = 5$
$y = (1.8 \times 5) - 2$
$y = (0.4 \times 5) + 5$

Answers

1. **(-10 , 0)**
2. **(-4 , 9)**
3. **(-4 , -9)**
4. **(-2 , -4)**
5. **(-2 , -3)**
6. **(-2 , -7)**
7. **(10 , 4)**
8. **(10 , 8)**
9. **(10 , -2)**
10. **(5 , 7)**

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