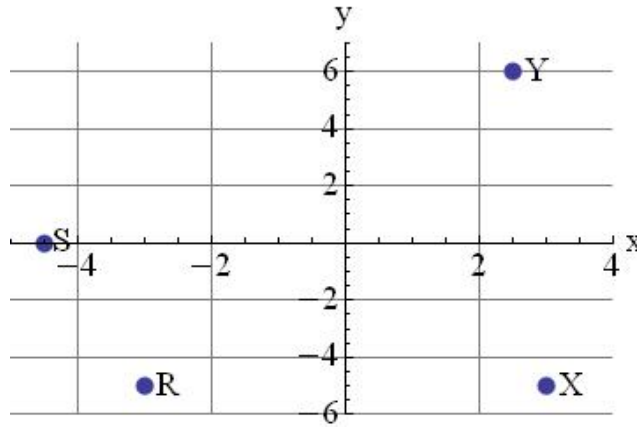


Questions

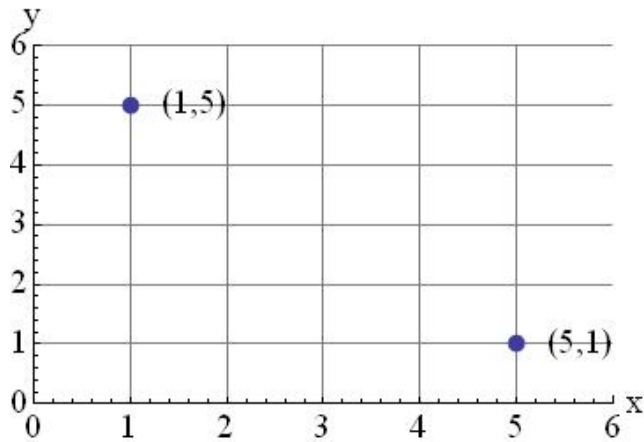
1. Explain why $(5, 1)$ is referred to as an ordered pair of numbers.
2. Give the coordinates for the points R , S , X and Y in the following sketch:



3. Solve for y when $8x - 12y = 24$.
4. Solve for g when $S = \frac{1}{2}gt$.
5. Solve for t when $A = P(1 + rt)$.
6. Given $y = 4x + 7$ find the missing coordinate: $(0, \quad)$ and $(2, \quad)$.
7. Given $y = -2x + 3$ find the missing coordinate: $(-6, \quad)$ and $(3, \quad)$.
8. Given $2y + 3x = -6$ find the missing coordinate: $(-2, \quad)$ and $(\quad, 3)$.

Solutions

1. The order matters! $(5, 1)$ is not the same as $(1, 5)$.



2. $R(-3, 5)$, $S(-4.5, 0)$, $X(3, -5)$, $Y(2.5, 6)$.

3.

$$\begin{aligned}8x - 12y &= 24 \\8x - 12y - 8x &= 24 - 8x \\-12y &= 24 - 8x \\\frac{1}{-12} \cdot (-12y) &= \frac{1}{-12} \cdot (24 - 8x) \\y &= \frac{1}{-12} \cdot 24 + \frac{1}{-12} \cdot (-8x) \\y &= -2 + \frac{2}{3}x\end{aligned}$$

4.

$$\begin{aligned}S &= \frac{1}{2}gt \\\frac{2}{t} \cdot S &= \frac{2}{t} \cdot \frac{1}{2}gt \\\frac{2S}{t} &= g\end{aligned}$$

5.

$$A = P(1 + rt)$$

$$\frac{1}{P} \cdot A = \frac{1}{P} \cdot P(1 + rt) \text{ First, divide by the factor } P$$

$$\frac{A}{P} = 1 + rt \text{ simplify}$$

$$\frac{A}{P} - 1 = 1 + rt - 1 \text{ isolate the } rt \text{ piece}$$

$$\frac{A}{P} - 1 = rt \text{ simplify}$$

$$\frac{1}{r} \left(\frac{A}{P} - 1 \right) = \frac{1}{r} \cdot rt \text{ multiply by } 1/r \text{ to isolate the } t$$

$$\frac{1}{r} \left(\frac{A}{P} - 1 \right) = t \text{ simplify}$$

6. $y = 4x + 7$. The ordered pair $(0, \quad)$ means $x = 0$.

When $x = 0 \Rightarrow y = 4(0) + 7 = 7$, so the ordered pair is $(0, 7)$.

When $x = 2 \Rightarrow y = 4(2) + 7 = 15$, so the ordered pair is $(2, 15)$.

7. $y = -2x + 3$.

When $x = -6 \Rightarrow y = -2(-6) + 3 = 15$, so the ordered pair is $(-6, 15)$.

When $x = 3 \Rightarrow y = -2(3) + 3 = -3$, so the ordered pair is $(3, -3)$.

8. $2y + 3x = -6$

When $x = -2 \Rightarrow 2y + 3(-2) = -6$,

$$2y - 6 = -6,$$

$$2y = 0,$$

$$y = 0, \text{ so the ordered pair is } (-2, 0).$$

When $y = 3 \Rightarrow 2(3) + 3x = -6$,

$$6 + 3x = -6,$$

$$3x = -12,$$

$$x = -4, \text{ so the ordered pair is } (-4, 3).$$