

Review Test for Math 06
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1. Solve the following equations:

(a) $2(x - 3) + 5 = 2x + 10$

(b) $\frac{2x - 3}{5} + 2 = \frac{1}{10} - \frac{2 - 5x}{2}$

2. What is the value of the real number a so that the equation

$$2x - a = 8x$$

has $x = 2$ as a solution?

3. Solve: $(2x + 3)(x - 4) = 0$.

4. Solve: $x^2 - 9 = 0$.

5. Solve: $x^2 + x = 6 + 2x$.

6. Factor completely: $x^3 + 3x^2y - xy^2 - 3y^3$.

7. Add: $\frac{x + 3}{2} + \frac{5}{x}$.

8. Simplify: $\frac{2xy^2}{7z^3} \div \frac{4x^2y}{14z^4}$.

9. What's the equation of the line in Figure 1?

10. Find the coordinates of the point P in Figure 2. The equations of the two lines are shown.

11. Simplify: $\sqrt{175}$.

12. The two legs of a right triangle have length 8 cm and 6 cm. What is the length of the hypotenuse?

13. Explain why the triangle in Figure 3 is a right triangle.

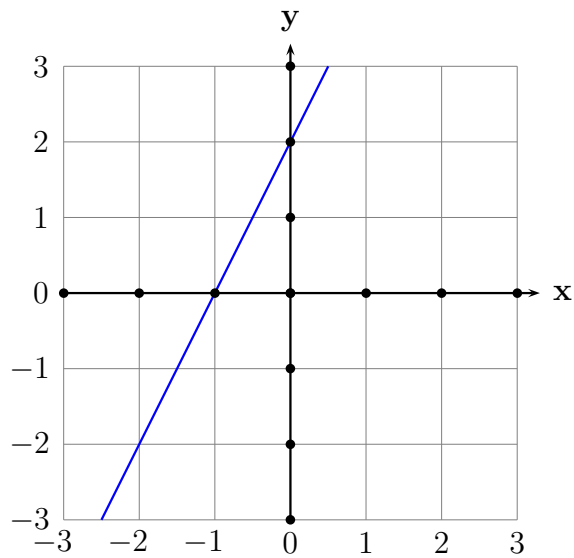


Figure 1: The line of Question 9

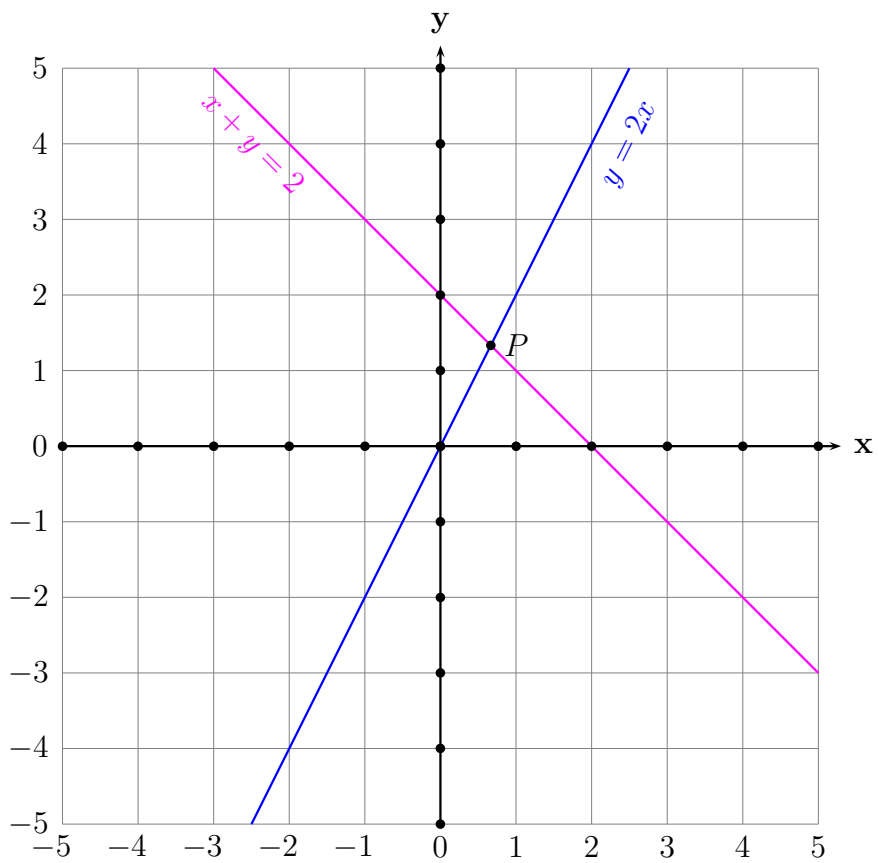


Figure 2: The lines of Question 10

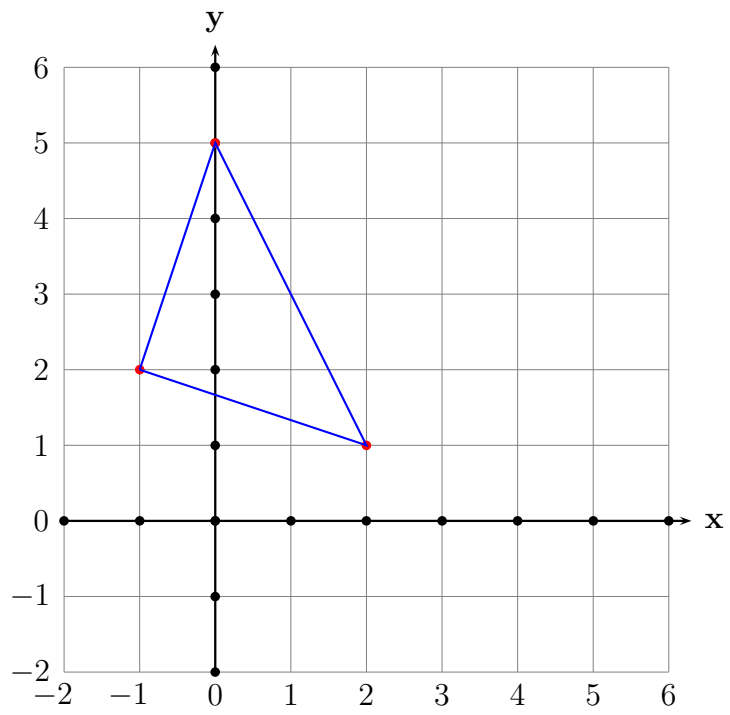


Figure 3: The triangle of Question 13