# ALGEBRA I

## Are you ready for Algebra I?

Try these problems on your own and then use **Photomath** to check your work and see some important concepts for this school year.

### Question 1. What is the prime factorization of this expression?

$$(abc)(acd)(bc)$$

### Question 2. What is the y-intercept of the graph of the equation:

$$4x - y = 2$$

A. $\frac{1}{2}$ B. $-3$ C. $-2$ D. $\frac{2}{3}$

**Question 3. What is the product of the following expression?**

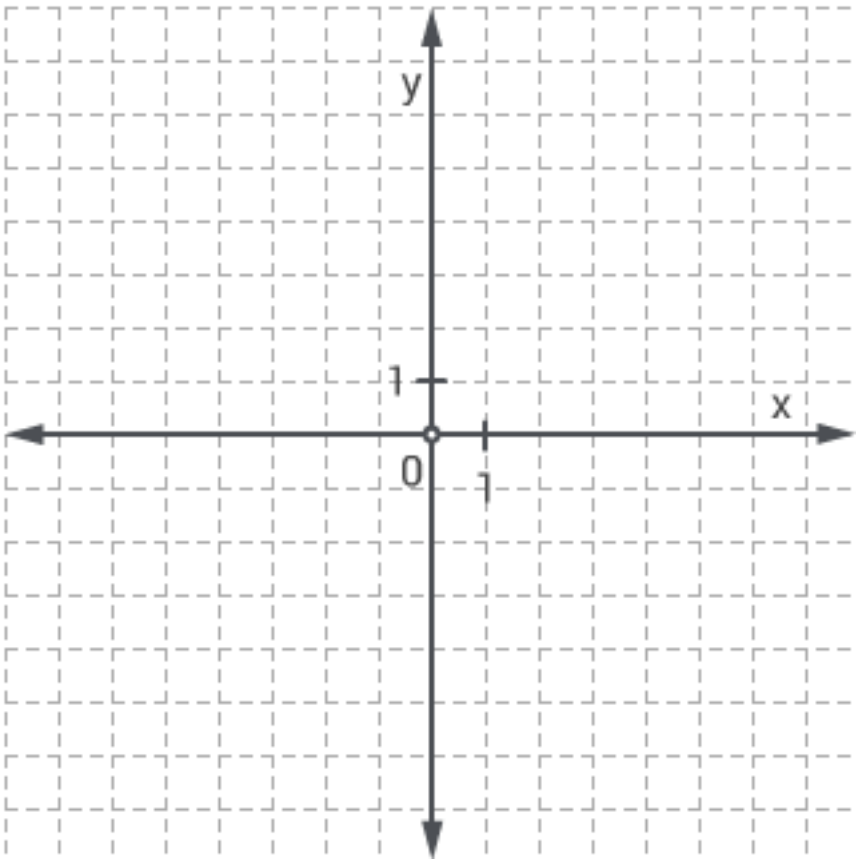
$$(-2x^3)(5x^{-4})$$

**A.** $-10x^{12}$ **B.** $-10x^{-1}$ **C.** $3x^7$ **D.** $-10x^7$

**Question 4. If $x-3$ is a factor of $x^2+x-12$, then the other factor is?**

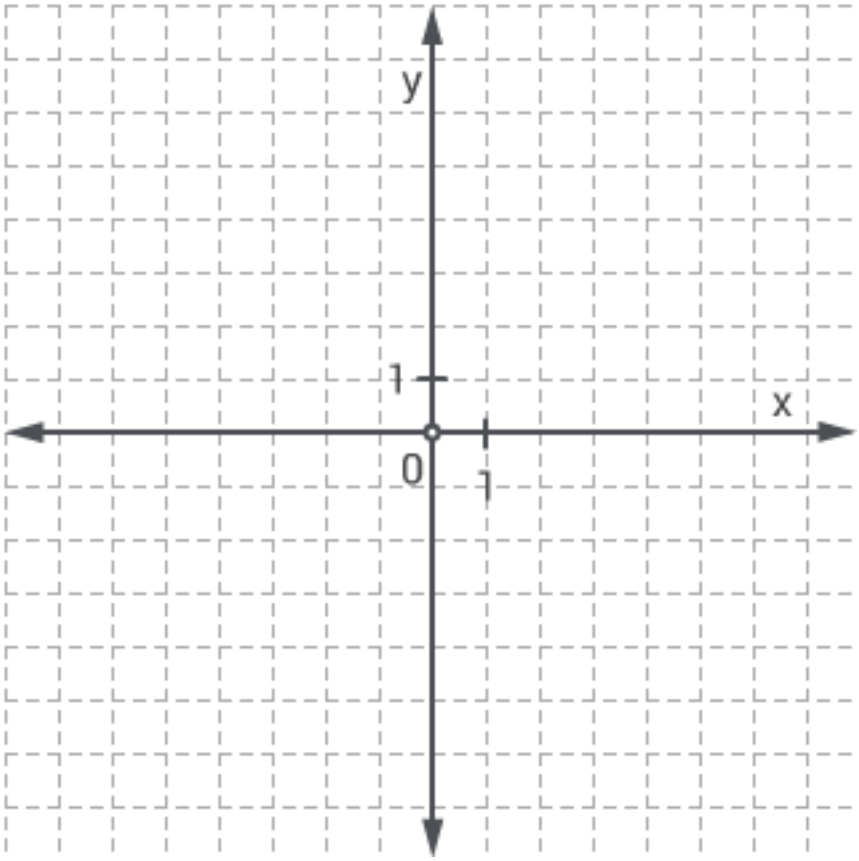
**Question 5. On the set of axes below, draw the graph of the equation:**

$$y=-\frac{3}{4}x+3$$



**Question 6. On the set of axes below, draw the graph of the equation:**

$$y = \sqrt{x} - 1$$




**Question 7. What are the roots of this equation?**

$$x^2 + 4x - 16 = 0$$

**A.** $-2 \pm 4\sqrt{5}$ **B.** $2 \pm 4\sqrt{5}$ **C.** $-2 \pm 2\sqrt{5}$ **D.** $2 \pm 2\sqrt{5}$

**Question 8. What are all values of x for which the following inequality is true?**

$$5x + \frac{5}{3} \leq -2x + \frac{2}{3}$$

**A.** $x \leq -\frac{7}{9}$ **B.** $x \leq -\frac{1}{3}$ **C.** $x > 0$ **D.** A, B and C

**Question 9. Solve the equation using both the factoring method and the quadratic formula.**

$$x^2 + 8x + 16 = 0$$