

BLC 190: Review for Quiz 1

Practice Quiz A

1. Solve the following equation:

$$x^2 = 8x - 12$$

2. Solve the following equation:

$$\frac{x}{x-1} - \frac{1}{x+3} = 0$$

3. Recall that the quadratic formula is:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Use the quadratic formula to solve the following equation:

$$5x^2 + 3x - 7 = 0$$

4. Solve for y in the following equation:

$$x = \frac{5y - 4x}{3 - 2y}$$

5. Simplify the following expression. Your answer should be a fraction in lowest terms:

$$\frac{\frac{2}{x} - \frac{3}{x^2}}{x}$$

6. Find all solutions to the following system of equations:

$$\begin{aligned}x + y^2 &= 1 \\x + 3y &= 3\end{aligned}$$

7. Rationalize the denominator:

$$\frac{y}{\sqrt{x} - \sqrt{y}}$$

8. Sketch the graph of the function $y = (x - 3)^2 - 5$.
9. Find the equation for the line through the points $(3, -1)$ and $(6, 8)$.
10. In 2000, the population of Red Hook was 1805, and in 2002, the population was 1824. Assuming that the population grows linearly, estimate the population of Red Hook in 2008.

Practice Quiz B

1. Solve the following equation:

$$(x + 1)^2 = 3x + 7$$

2. Solve the following equation:

$$\frac{1}{2x - 1} - \frac{3}{x + 4} = 0$$

3. Recall that the quadratic formula is:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Use the quadratic formula to solve the following equation:

$$2x^2 = 4x + 5$$

4. Solve for y in the following equation:

$$5 = \sqrt{x^2 + y^2}$$

5. Simplify by subtracting the fractions. Your answer should be a fraction in lowest terms.

$$\frac{1}{x + 1} - \frac{3}{(x + 1)(x - 2)}$$

6. Find all solutions to the following system of equations:

$$\begin{aligned} 3x + y &= 9 \\ 5x - 2y &= 4 \end{aligned}$$

7. Rationalize the numerator:

$$\frac{\sqrt{x} + 3}{x - 9}$$

8. Sketch the graph of the function $y = \sqrt{x + 1} + 3$.

9. Find the equation for the line through the points $(-2, 3)$ and $(-2, 7)$.

10. At age 7, Megan has 18 friends. Starting at age 7, she gains 10 friends a year (and never loses any friends). How many friends does she have at age x ?