Success in College Algebra depends to a large extent on knowledge of prerequisite elementary Algebra. The topics that are included on this test are assumed to be review, and the skills needed to complete these problems will not be covered during your class. If you cannot complete these problems, you may want to consider enrolling in different Math course.

1. Simplify. Write your answer without negative exponents. Do not use a calculator.

(a) $-2^2 + 2^0 + 2^{-1}$

(b) $\left(\dfrac{7x^3 y^2}{28x^{-2} y} \right)^{-3}$

2. Simplify. Do not use a calculator.
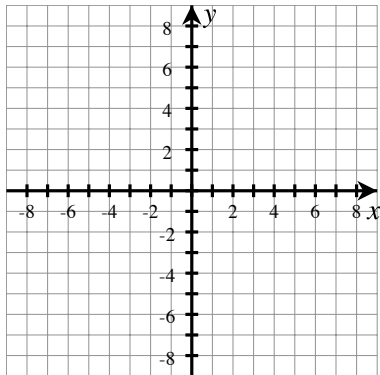
(a) $\dfrac{6 \pm \sqrt{8}}{2}$

(b) $-\sqrt{-54}$

3. Solve for the indicated variable. Simplify as much as possible.

(a) $c = \dfrac{a+b}{2}$; for b

(b) $\dfrac{3}{7}x - 2y = \dfrac{2}{3}$; for y

4. Find an equation of the line that passes through $(-6, -6)$ and $(9, -1)$.

5. Graph $4x - 6y = 18$.

6. Factor completely.

(a) $x^3y - 36xy$

(c) $2x + 6 - x^2 - 3x$

(b) $4y^2 - 16y + 15$

(d) $3x^3 - 2x^2 + 27x - 18$

7. Simplify.

(a) $\dfrac{2x^2 - x - 1}{x^2 + 4x - 21} \cdot \dfrac{x + 7}{2x + 1}$

(b) $\dfrac{x^2}{x^2 - 4} - \dfrac{x + 1}{x + 2}$

8. Solve.

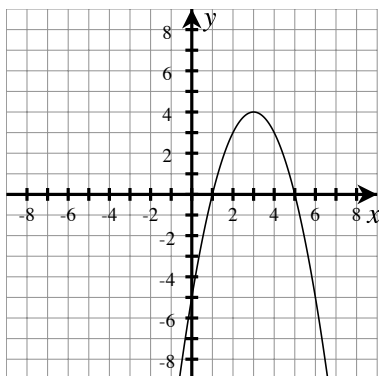(a) $x^2 - x - 12 = 0$

(d) $5 - 3x \leq 17$

(b) $49x^2 = 100$

(e) $x + 5 = \dfrac{6}{x}$

(c) $\dfrac{2x}{x+1} = \dfrac{2x-1}{x}$

9. Solve.

$$-\frac{2}{x} = \frac{7}{x-9} - 1$$

10. Use the graph below to answer the following.

(a) Find $f(6)$.

(b) For what values of x is $f(x) = 0$?

If you received help on any of the problems, please list the names of the people or resources who helped you:

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