

Lesson 40 Section 8.2

Quadratic Formula:

If $ax^2 + bx + c = 0$, then the value(s) of x can be found by $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$.

Note: $-b$ mean the opposite of b b^2 is always positive
 $-4ac$ means $(-4)(a)(c)$

Use the quadratic formula to solve the following quadratic equations.

1) $x^2 - 2 = -x$

2) $2 - 15t^2 - 7t = 0$

3) $4 = 3x(x - 2)$

4) $5x(x - 1) - 7 = 4x(x - 2)$

5) If $f(a) = 9a^2 - 12a - 4$, find any a such that $f(a) = 0$.

6) $8x + 2x(x - 3) = 10$

7) $3 = 2r(r + 2)$

8) $3(x^2 + 1) = -12x$

9) If $g(x) = \frac{2}{x} + \frac{2}{x+3}$, find all x for which $g(x) = 1$

10) A boat travels 24 miles at a certain speed, and then continues for 30 miles farther at a speed that is 3 miles per hour faster. The total time of the entire trip is 4 hours. What is the speed for each part of the trip?

	Distance	Rate	Time
1 st part			
2 nd part			

time for 1st part + time for 2nd part = 4 hours

- 11) Two hoses together can fill a pool in 2 hours. The larger hose alone can fill the pool in 3 hours less time than the smaller hose. How long would it take each hose alone to fill the pool?

x = time alone for smaller hose $x - 3$ = time alone for larger hose
rates: