

7. Identify a, b, and c values for the following quadratic equation. $-x^2 + 3x = 25$ $a = -1, b = 3, c = -25$

$$\underline{\underline{-x^2 + 3x - 25 = 0}} \quad c = -25$$

8. Solve $p^2 - 10p + 16 = 0$.

$$a = 1, b = -10, c = 16$$

$$p = \frac{10 \pm \sqrt{100 - 4(1)(16)}}{2(1)} = \frac{10 \pm \sqrt{36}}{2} = \frac{10 \pm 6}{2}$$

$$\begin{aligned} \frac{10+6}{2} &= \frac{16}{2} = 8 \\ \frac{10-6}{2} &= \frac{4}{2} = 2 \end{aligned}$$

| Exact Solution | Rounded Solution |
|--|---|
| <ul style="list-style-type: none"> * No Rounding * leave radical if # is not a perfect square * Ex) $\frac{2 \pm \sqrt{7}}{3}$ | <ul style="list-style-type: none"> * calculate the radical use calc. * estimated value Ex) $x \approx 1.55$ $x \approx -.22$ |

1. Find the exact solutions for $t^2 + 5t = 3$ $t^2 + 5t - 3 = 0$ $a=1, b=5, c=-3$

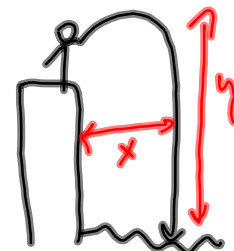
No rounding!

$$t = \frac{-5 \pm \sqrt{25 - 4(1)(-3)}}{2(1)} = \frac{-5 \pm \sqrt{37}}{2}$$

Leave it.
37 is not perfect square

2. The formula $y = -x^2 + 2x + 27$ represents a diver diving, where y is the meters above water and x is the meters away from the cliff.

$y =$ meters above H_2O
 $x =$ meters away from cliff



- a. How far is the diver away from the cliff when she...

1. hits the water? 6.3 meters

$$y=0$$

2. is 10 meters above the water? 5.25m

$$y=10$$

$$0 = -x^2 + 2x + 27$$

$$a = -1, b = 2, c = 27$$

$$x = \frac{-2 \pm \sqrt{4 - 4(-1)(27)}}{2(-1)}$$

$$x = \frac{-2 \pm \sqrt{112}}{-2}$$

$$\frac{-2 + \sqrt{112}}{-2} = \frac{-2 + 10.6}{-2} = -4.3$$

$$\frac{-2 - 10.6}{-2} = 6.3$$

$$10 = -x^2 + 2x + 27$$

$$0 = -x^2 + 2x + 17$$

$$a = -1, b = 2, c = 17$$

$$\frac{9-5}{4, 5-8, 15a, 17-21}$$

$$x = \frac{-2 \pm \sqrt{4 - 4(-1)(17)}}{2(-1)} = \frac{-2 \pm \sqrt{72}}{-2}$$

$$= \frac{-2 \pm 8.5}{-2}$$

$$\frac{-2 + 8.5}{-2} = \boxed{-3.25}$$

$$\frac{-2 - 8.5}{-2} = \boxed{5.25}$$