10.5 Exit Slip

Monday, April 28, 2014
3:44 PM

What value of c would make the expression a perfect square trinomial?

① $x^2 - 20x + c$

$\frac{-20}{2} = (-10)^2 = \boxed{100}$

② $x^2 + \frac{3}{2}x + c$

$\frac{3}{2} \div \frac{2}{1} = \frac{3}{2} \cdot \frac{1}{2} = \left(\frac{3}{4}\right)^2 = \boxed{\frac{9}{16}}$

Solve for x by completing the square.
Round to the nearest hundredth.

③ $3x^2 - 30x = 75$

$\frac{3(x^2 - 10x)}{3} = \frac{75}{3}$

$x^2 - 10x = 25$

$\frac{-10}{2} = (-5)^2 = 25$

$x^2 - 10x + 25 = 25 + 25$

$\sqrt{(x-5)^2} = \sqrt{50}$

$x - 5 = \sqrt{2 \cdot 25}$

$x - 5 = \pm 5\sqrt{2}$

$+5 \quad +5$

$x = 5 \pm 5\sqrt{2}$

$\boxed{x = -2.07 \text{ \& } x = 12.07}$