

August 27, 2018

Completing the Square

$x^2 + 8x + 16$ ← Perfect Square Trinomial (PST)

$a = 1, b = 8$

x	$+4$
x^2	$4x$
$4x$	16

$= (x+4)(x+4) = (x+4)^2$

Aug 27-9:57 AM

$x^2 + 8x + 16$

Aug 27-10:18 AM

$x^2 - 38x + C$

(a) $-38 \cdot \frac{1}{2} = -19$

(b) $(-19)^2 = 361$

$x^2 - 38x + 361$

PST

Aug 27-10:22 AM

$x^2 - \frac{5}{3}x + C$

(a) $-\frac{5}{3} \cdot \frac{1}{2} = -\frac{5}{6}$

(b) $(-\frac{5}{6})^2 = \frac{25}{36}$

C

Aug 27-10:28 AM

$z^2 - 17z + C$

(a) $-17 \cdot \frac{1}{2} = -\frac{17}{2}$

(b) $(-\frac{17}{2})^2 = \frac{289}{4}$

C

Aug 27-10:31 AM

$a^2 + 2a - 3 = 0$

* not perfect!

Completing the Square (Steps)

① $a^2 + 2a - 3 = 0$

② $a^2 + 2a = 3$

(a) $2 \cdot \frac{1}{2} = 1$

(b) $(1)^2 = 1$ add it to both sides of the equation.

③ $a^2 + 2a + 1 = 3 + 1$

$(a+1)^2 = 4$

$(a+1)^2 - 4 = 0$

Aug 27-10:32 AM