

SAT NC Wednesday 10/31

What are the solutions to $3x^2 + 12x + 6 = 0$?

a) $x = -2 \pm \sqrt{2}$

$3(x^2 + 4x + 2)$

b) $x = -2 \pm \frac{\sqrt{30}}{3}$

$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-4 \pm \sqrt{(4)^2 - 4(1)(2)}}{2(1)}$

c) $x = -6 \pm \sqrt{2}$

$= \frac{-4 \pm \sqrt{16 - 8}}{2}$

d) $x = -6 \pm 6\sqrt{2}$

$\leftarrow = \frac{-4 \pm \sqrt{8}}{2} \quad \sqrt{4 \cdot 2}$
 $= -2 \pm \sqrt{2}$

$\frac{-4 \pm \sqrt{8}}{2} = \frac{-4 \pm 2\sqrt{2}}{2}$
 $= -2 \pm \sqrt{2}$

$\sqrt{8}$
 $\sqrt{4} \cdot \sqrt{2}$
 $2 \cdot \sqrt{2}$

2nd method

$-12 \pm \sqrt{(12)^2 - 4(3)(6)}$
 $-12 \pm \sqrt{144 - 72}$

$\frac{-12 \pm \sqrt{72}}{2(3)}$

$\frac{-12 \pm \sqrt{36 \cdot 2}}{6}$

$\frac{-12 \pm 6\sqrt{2}}{6}$

$-2 \pm \sqrt{2}$