

SAT Bellwork Monday 10/30

NO CALCULATOR!

What is the sum of all values of m that satisfy the equation: (Solutions)

$$2m^2 - 16m + 8 = 0?$$

2

$$2(m^2 - 8m + 4) = 0$$

A) -8

~~B) $-4\sqrt{3}$~~

~~C) $4\sqrt{3}$~~

D) 8

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{8 \pm \sqrt{(-8)^2 - 4(1)(4)}}{2}$$

$$x = \frac{8 \pm \sqrt{48}}{2}$$

$$= \frac{8 \pm \sqrt{16 \cdot 3}}{2}$$

$$= \frac{8 \pm 4\sqrt{3}}{2} = 4 \pm 2\sqrt{3}$$

Save 2 steps.

$$\frac{8 + \sqrt{48}}{2} + \frac{8 - \sqrt{48}}{2}$$

$$= \frac{8}{2} + \frac{\sqrt{48}}{2} + \frac{8}{2} - \frac{\sqrt{48}}{2}$$

$$\text{Sum } (4 + 2\sqrt{3}) + (4 - 2\sqrt{3}) = 8 \quad \text{choice D.}$$