

February 10, 2016

$$|3x-4| + |2x+6| = 7$$

$k > 0$

$$-|2x+6| \quad -|2x+6|$$

$$|3x-4| = 7 - |2x+6|$$

①

$$3x-4 = 7 - (2x+6)$$

$$3x-4 = 7-2x-6$$

$$3x-4 = 1-2x$$

$$5x = 5$$

$$x = 1$$

ck

$$|3(1)-4| + |2(1)+6| = 7$$

$$|3-4| + |2+6| = 7$$

$$|-1| + |8| =$$

$$1 + 8 = 9 \neq 7$$

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$$|3x-4| + |2x+6| = 7$$

②

$$3x-4 = -(7 - (2x+6))$$

$$= -(7-2x-6)$$

$$= -(1-2x)$$

$$3x-4 = -1+2x$$

$$x = -3$$

ck

$$|3(-3)-4| + |2(-3)+6| = 7$$

$$|-15-4| + |-10+6|$$

$$|-19| + |-4|$$

$$19 + 4 = 23 \neq 7$$

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$$|3x^2-16| = 7$$

$$3x^2 - 16 = 7$$

$$3x^2 - 23 = 0$$

$$\frac{3x^2}{3} = \frac{23}{3}$$

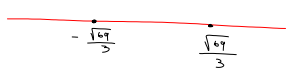
$$\sqrt{x^2} = \pm \sqrt{\frac{23}{3}}$$

Rationalizing the denominator

$$x = \pm \sqrt{\frac{23}{3}} \cdot \sqrt{\frac{3}{3}}$$

$$x = \pm \frac{\sqrt{69}}{\sqrt{3 \cdot 3}}$$

$$= \pm \frac{\sqrt{69}}{\sqrt{9}}$$

$$x = \pm \frac{\sqrt{69}}{3}$$


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