

Answer on Question #63623 – Math – Algebra

Question

$$8x - 3 < \frac{1}{4} [x + 16] < x + 10$$

Solution

$$8x - 3 < \frac{1}{4}(x + 16) < x + 10$$

$$4(8x - 3) < (x + 16) < 4(x + 10)$$

$$32x - 12 < x + 16 < 4x + 40$$

$$32x - 12 < x + 16 \text{ and } x + 16 < 4x + 40$$

$$32x - x < 16 + 12 \text{ and } 4x - x > 16 - 40$$

$$31x < 28 \text{ and } 3x > -24$$

$$x < \frac{28}{31} \text{ and } x > -\frac{24}{3}$$

$$-8 < x < \frac{28}{31}$$

$$\text{Answer: } -8 < x < \frac{28}{31}$$