EXTRA PRACTICE - Exercises

Unit I – The Structure of Mathematics
Part D – Further Investigation of Operation Symbols
Lesson 3 – Properties of Inequality

In each of the following, perform the indicated operations on the given inequality one at a time, each time indicating what the resulting sentence is.

1. For $6 \quad 25 > 3$

   a. Mult. $^{-}4$

   b. Mult. $^{+}\frac{1}{3}$

2. For $7 + 5 < 18 - 5$

   a. Add $^{+}5$

   b. Mult. $^{-}\frac{1}{3}$

3. $\frac{4}{5} < 3$

   a. Mult. $^{-}5$

   b. Add $^{+}4$

4. $\frac{13}{6} > \frac{5}{4}$

   a. Mult. $^{+}\frac{1}{2}$

   b. Mult. $^{-}24$

5. $^{-}5 \;\; 4 <^{-}5 \;\; 3$

   a. Mult. $^{+}\frac{1}{5}$

   b. Mult. $^{-}1$

6. $20 >^{-}3 \;\; 6$

   a. Mult. $^{+}\frac{1}{2}$

   b. Mult. $^{+}\frac{1}{5}$

7. $10 + 3 > 10 + 2$

   a. Add $^{-}3$

   b. Mult. $^{-}2$

8. $\frac{^{-}12}{5} < \frac{32}{7}$

   a. Mult. $^{-}5$

   b. Mult. $^{+}7$

9. $\frac{2}{3}(5 + 4) > 10$

   a. Mult. $^{-}3$

   b. Mult. $^{+}\frac{1}{2}$

10. $8 < 5(6 - 4)$

    a. Mult. $^{-}\frac{1}{5}$

    b. Mult. -1

EXTRA PRACTICE — Answer Key

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Lesson 3 – Properties of Inequality

In each of the following, perform the indicated operations on the given inequality one at a time, each time indicating what the resulting sentence is.

1.

a. $6 \cdot (^{-}100) < 3 \cdot (^{-}20)$

b. $^{-}200 < {}^{-}20$

2.

a. $17 < 18$

b. $\frac{^{-}17}{3} > {}^{-}6$

3.

a. $^{-}4 > {}^{-}15$

b. $0 > {}^{-}11$

4.

a. $\frac{13}{12} > \frac{5}{8}$

b. $^{-}26 < {}^{-}15$

5.

a. $^{-}4 < {}^{-}3$

b. $4 > 3$

6.

a. $2 \cdot 5 > {}^{-}3 \cdot 3$

b. $2 > \frac{^{-}9}{5}$

7.

a. $10 > 9$

b. $^{-}20 < {}^{-}18$

8.

a. $12 > \frac{^{-}160}{7}$

b. $84 > {}^{-}160$

9.

a. $6 < 10$

$^{-}18 > {}^{-}30$

b. $^{-}9 > {}^{-}15$

10.

a. $\frac{^{-}8}{5} > \frac{^{-}2}{1}$ $\quad \frac{^{-}8}{5} > {}^{-}2$

b. $\frac{8}{5} < 2$