

EXTRA PRACTICE - Exercises

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Unit I – The Structure of Mathematics Part D – Further Investigation of Relation Symbols Lesson 2 – Properties of Equality

Determine which of the following statements are true and which are false. If a statement is true, tell which property of equality is illustrated.

1. $\sqrt{16} = 32 \div 2$

2. If $5 = x + 2$, then $x + 2 = 5$

3. If $9 + 6 < 4 \cdot 8$, then $4 \cdot 8 < 9 + 6$.

4. $27 \div 9 = \sqrt{3}$

5. If $7 = x + 3$, then $4 = x$

6. $32 \div 2 > 4^2$

7. If $-4x = 12$, then $x = -3$

8. If $9 = 3 \cdot 3$ and $3 \cdot 3 = 36 \div 4$, then $9 = 36 \div 4$

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

9. For $2 \cdot 3 = \frac{18}{3}$

a. Mult. $+3$

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

10. For $2 \cdot 9 - 8 = 14 + 7$

a. Add -7

b. Add $+15$

11. For $\frac{42}{7} = 2 \cdot 3$

a. Mult. -7

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

12. For $\frac{9}{12} = \frac{3}{4}$

a. Mult. $+12$

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

13. For $16 - 20 = -3 + -1$

a. Add $+20$

b. Mult. $\frac{+1}{4}$

EXTRA PRACTICE — Answer Key

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Unit I – The Structure of Mathematics Part D – Further Investigation of Relation Symbols **Lesson 2 – Properties of Equality**

Determine which of the following statements are true and which are false. If a statement is true, tell which property of equality is illustrated.

1. False
2. True, Symmetric Property of Equality
3. False
4. False
5. True, Addition Property of Equality
6. False
7. True, Multiplication Property of Equality
8. True, Transitive Property of Equality

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

9.
 - a. $18 = 18$
 - b. $9 = 9$
10.
 - a. $14 = 14$
 - b. $36 = 36$
11.
 - a. $-42 = -42$
 - b. $-2 = -2$
12.
 - a. $9 = 9$
 - b. $-3 = -3$
13.
 - a. $16 = 16$
 - b. $-1 = -1$