Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.4-2.5 Worksheet

**Name the property of equality or congruence that justifies each statement.**

1. If , then . 2. If , then .

3. . 4. If , then .

5. If , then . 6. .

7. If and , 8. If and , then .

then .

9. If = 8, then x + 4 = 24. 10. If , then .

**Complete each proof by filling in the missing statements or reasons.**

11. Given: 2(x – 3) = 8

Prove: x = 7

**Proof:**

**Statements Reasons**

a. 2(x – 3) = 8 a.

b. 2x – 6 = 8 b.

c. 2x = 14 c.

d. x = 7 d.

12. Given: 3x – 4 = ½ x + 6

Prove: x = 4

**Proof:**

**Statements Reasons**

a. 3x – 4 = ½ x + 6 a.

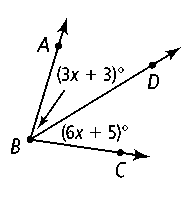
b. 2(3x – 4) = 2(½ x + 6) b.

c. 6x – 8 = x + 12 c.

d. 5x – 8 = 12 d.

e. 5x = 20 e.

f. x = 4 f.

13. **Given:**

**Prove:**

**Statements Reasons**

a. a.

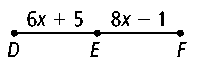
b. b. Angle Addition Postulate

c. c.

d. d.

e. e. Subtraction Property of Equality

f. f.

14. **Given:** *E* is the midpoint of .

**Prove:** *DE* = 23

**Statements Reasons**

a. *E* is the midpoint of a.

b. b. Definition of midpoint

c. c.

d. d.

e. e. Addition Property of Equality

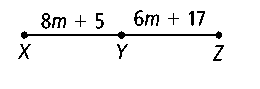
f. f.

g. g. Given

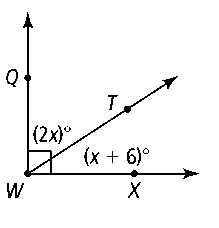
h. h.

i. i.

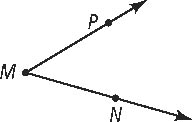
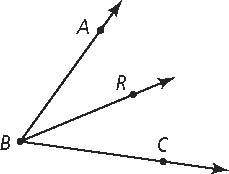
**Write a two-column proof.**

15. **Given:**

**Proof:**

16. **Given:**

**Prove:**

17. **Given:** *m*∠*PMN* = *m*∠*RBC*

**Prove:** *m*∠*ABR* + *m*∠*PMN* = *m*∠*ABC*