

In Exercises 9–20, state the property illustrated.

9. If  $AB = BC$ , then  $AB + OR = BC + OR$ .
10. If  $AB = BC$ , then  $AB - OR = BC - OR$ .
11. If  $5x - 7 = 23$ , then  $5x = 30$ .
12. If  $y - 19 = 21$ , then  $y = 40$ .
13. If  $2(t + 8) = 1$ , then  $2t + 16 = 1$ .
14. If  $7x = 91$ , then  $x = 13$ .
15. If  $4(x + 9) = 5(x + 4)$ , then  $4x + 36 = 5x + 20$ .
16. If  $49 = 147x$ , then  $\frac{1}{3} = x$ .
17. If  $2x + 6 = x - 2$ , then  $x + 6 = -2$ .
18. If  $3x + 8 = x + 12$ , then  $2x = 4$ .
19. If  $m\angle A = 40$ , then  $3 m\angle A = 120$ .
20. If  $m\angle A = m\angle B$  and  $m\angle B = m\angle C$ , then  $m\angle A = m\angle C$ .

In Exercises 21–24, state the missing reasons for each proof.

21. Statements	Reasons
1. $4x + 20 = -4 - 2x$	1. Given
2. $6x + 20 = -4$	2. <u>?</u>
3. $6x = -24$	3. <u>?</u>
4. $x = -4$	4. <u>?</u>

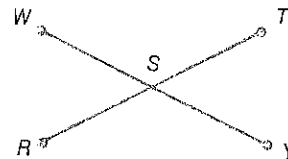
22. Statements	Reasons
1. $\frac{2}{3}(12 + 6) - x = 3$	1. Given
2. $8 + 4 - x = 3$	2. <u>?</u>
3. $-x = -9$	3. <u>?</u>
4. $x = 9$	4. <u>?</u>

23. Statements	Reasons
1. $90 - x = 2x$	1. Given
2. $90 = 3x$	2. <u>?</u>
3. $30 = x$	3. <u>?</u>
4. $x = 30$	4. <u>?</u>

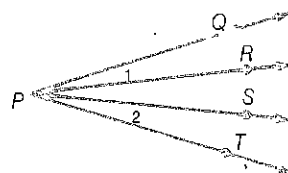
24. Statements	Reasons
1. $\frac{2}{3}x + x = 25$	1. Given
2. $\frac{5}{3}x = 25$	2. <u>?</u>
3. $x = 15$	3. <u>?</u>

In Exercises 25–34, give the reason for each statement.

25. If  $WY = RT$ , then  $\frac{1}{2}(WY) = \frac{1}{2}(RT)$ .
26. If  $\frac{1}{2}(WY) = \frac{1}{2}(RT)$ , and  $RS = \frac{1}{2}(RT)$ , and  $WS = \frac{1}{2}(WY)$ , then  $RS = WS$ .



27. If  $m\angle 2 = m\angle 1$ , then  $m\angle QPS = m\angle RPT$ .
28. If  $m\angle QPS = m\angle RPT$ , then  $m\angle 2 = m\angle 1$ .
29. If  $m\angle 2 = m\angle 1$ , then  $5 m\angle 2 = 5 m\angle 1$ .



30.  $BC = BC$
31. If  $AB = CD$ , then  $AB + BC = CD + BC$ .

