



8) odd

10) true

12) true

13) false; leap year

17) true

18) false; $\sqrt{2} \times \sqrt{2} = 2$

19) If ΔX is a right angle, then $m\angle X = 90^\circ$.

converse: If $m\angle X = 90^\circ$, then ΔX is a right angle.

inverse: If ΔX is not a right angle, then $m\angle X \neq 90^\circ$.

contrapositive: If $m\angle X \neq 90^\circ$, then ΔX is not a right angle.

21) false: the pool is also open Saturdays.

22) true: the pool opens at noon on Saturday.

23) false: Starts at noon on Saturday.

31) complementary

32) positive

33) greater than 50 mph

34) 45

$$35) \quad -5 \cdot \frac{m}{-5} + 3 = -4.5 \cdot -5 \quad \text{given}$$

$$m + 3 = 22.5 \quad \text{mult prop} =$$
$$\quad -3 \quad -3$$

$$m = 19.5 \quad \text{subtr prop} =$$

$$36) \quad -47 = 3x - 59 \quad \text{given}$$
$$\quad +59 \quad +59$$

$$\frac{12}{3} = \frac{3x}{3} \quad \text{add prop} =$$

$$4 = x \quad \text{division prop} =$$

$$37) \quad a + b = a + b \quad \text{reflexive}$$

$$38) \quad \text{If } \angle RST \cong \angle ABC, \text{ then } \angle ABC \cong \angle RST \quad \text{symmetric}$$

$$39) \quad 2x = 9 \text{ and } y = 9 \text{ so } 2x = y \quad \text{transitive}$$

- 44) 1. given
2. def. of comp. &
3. given
4. def. of \cong
5. substitution prop =
6. def. of comp & s

- 46) a. given
b. $TU = UV$
c. $SV = SU + UV$
d. subst. prop =

$$46) z - 2 + 2 + 7z = 180$$

$$8z = 180$$

$$z = 22.5$$

$$47) 3x + 2x + 5 = 90^\circ$$

$$5x + 5 = 90^\circ$$

$$\begin{array}{r} -5 \\ -5 \end{array}$$

$$5x = 85$$

$$x = 17$$

$$50) \frac{135}{3} = \frac{3w}{3} \quad \text{def. of vert } \angle\text{'s}$$

$$45 = w \quad \text{subtr. prop. =}$$

$$51) 2x + 2x = 180$$

$$4x = 180$$

$$x = 45$$

angle add. post.

simplify

div. prop. =