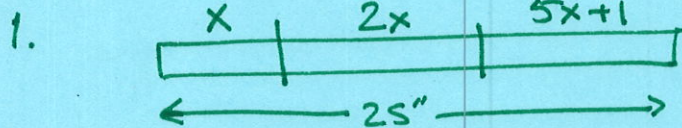


Word problems (#1) Key

①



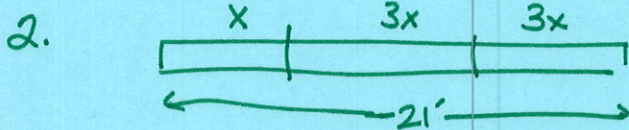
$$x + 2x + 5x + 1 = 25$$

$$\begin{array}{r} 8x + 1 = 25 \\ -1 \quad -1 \\ \hline 8x = 24 \end{array}$$

$$\frac{8x}{8} = \frac{24}{8}$$

$$\boxed{x = 3}$$

first piece: 3 inches; 2nd piece: 6 inches
Third piece: 16 inches.



$$x + 3x + 3x = 21$$

$$\frac{7x}{7} = \frac{21}{7} \Rightarrow x = 3$$

first piece: 3 feet
2nd & 3rd pieces: 9 feet each

3.
$$\begin{array}{r} x + (x+2) = 654 \\ 2x + 2 = 654 \\ -2 \quad -2 \\ \hline 2x = 652 \end{array}$$

$$\frac{2x}{2} = \frac{652}{2}$$

$$x = 326$$

$$1^{\text{st}} \text{ room} = 326$$

$$2^{\text{nd}} \text{ room} = 328$$

4. Gobi = x square miles
Sahara = $7x$ square miles

$$x + 7x = 4,000,000$$

$$\frac{8x}{8} = \frac{4,000,000}{8} \Rightarrow x = 500,000 \text{ square miles}$$

Gobi Desert = 500,000 square miles

Sahara Desert = 3,500,000 square miles

Cont'd

(2)

5. $3(x+5) = 2x-1$

$$\begin{array}{r} 3x+15 = 2x-1 \\ -2x \quad \quad -2x \\ \hline \end{array}$$

$$\begin{array}{r} x+15 = -1 \\ -15 \quad -15 \\ \hline \end{array}$$

$$x = -16$$

The number is -16.

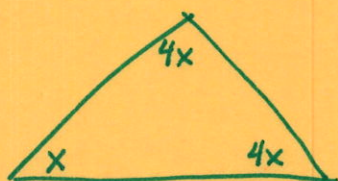
6. $\frac{x}{4} + \frac{1}{2} = \frac{3}{4} \Rightarrow \frac{x}{4} = \frac{3}{4} - \frac{1}{2} = \frac{3}{4} - \frac{2}{4} = \frac{1}{4}$

$$\frac{x}{1} \cdot \frac{1}{4} = \frac{1}{4} \cdot \frac{1}{1} \Rightarrow x = 1$$

7. $\frac{1}{3}x = \frac{5}{6} \Rightarrow \frac{3}{1} \cdot \frac{1}{3}x = \frac{3}{1} \cdot \frac{5}{6}$

$$x = \frac{5}{2}$$

8.



$$x + 4x + 4x = 180$$

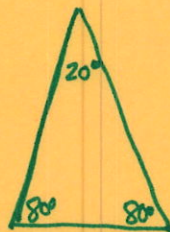
$$\frac{9x}{9} = \frac{180}{9}$$

$$x = 20^\circ$$

(The sum of angles in a triangle is 180°)

Smallest angle = 20°

2 larger angles are both 80°



9. answers will vary.

but in general working w/ real #'s is easier. your initial equation may be incorrect but you may catch the mistake using the original wording.