

$$\frac{x}{45} = \frac{60}{40}$$

$$x = \frac{60 \times 45}{40}$$

$$x = \frac{2700}{40}$$

$$x = 67.5 \text{ km}$$

2. Triangles 1 & 3 (Because of AA)
They both have a 90° angle, a 56° angle,
and a 34° angle

3. $\frac{12}{7.8} = \frac{11}{h} \Rightarrow h = 7.15 \text{ cm}$

4. $\triangle ABC \cong \triangle DEF$ $m\overline{DC} = 65 - 24 = 41$

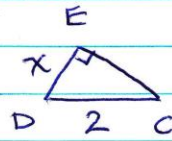
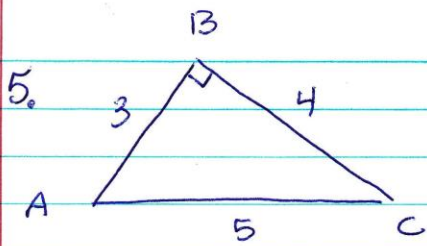
$\triangle DHC \sim \triangle ABC$ $\frac{41}{65} = \frac{m\overline{HD}}{35}$

$$m\overline{HD} = \frac{41 \times 35}{65}$$

$$= 22.08 \text{ cm}$$

$$\therefore m\overline{EH} = 35 - 22.08$$

$$= 12.92 \text{ cm}$$



$$\triangle ABC \sim \triangle DEC$$

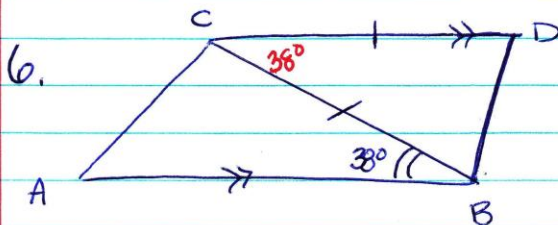
$$\left(\begin{array}{l} \angle E \cong \angle B \\ \angle C \cong \angle C \end{array} \right) \text{AA}$$

$$m\overline{DC} = \frac{1}{2} \overline{BC} = \underline{\underline{2}}$$

$$\frac{2}{5} = \frac{x}{3}$$

$$\frac{2 \cdot 3}{5} = x$$

$$1.2m = \frac{6}{5} = x$$



$$m\angle DCB = 38^\circ \text{ (Alternate interior angles)}$$

$\triangle ABCD$ is isosceles
 $\therefore \angle CBD \cong \angle CDB$

$$180^\circ - 38^\circ = 142^\circ$$

$$142^\circ \div 2 = 71^\circ$$

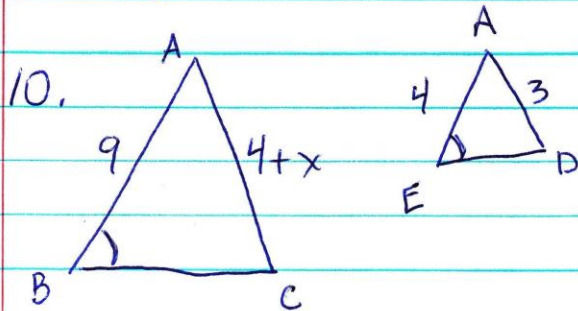
$$\therefore \angle CBD \text{ and } \angle CDB = 71^\circ$$

7. $m\angle Q = 180^\circ - (59^\circ + 80^\circ)$
 $= 41^\circ$

$\therefore A$ is congruent by ASA

- 8.
- ① Vertically opposite angles
 - ② bisect each other, (cut each other in half), (meet in the middle) etc
 - ③ Alternate interior angles
 - ④ ASA

9. A - 6
 B - 2
 C - 1
 D - 3



$$\triangle ADE \sim \triangle ABC \text{ (A,A)}$$

$$\frac{9}{4} = \frac{4+x}{3}$$

$$9 \cdot 3 = 4(4+x)$$

$$27 = 16 + 4x$$

$$11 = 4x$$

$$2.75 = x$$

$$\text{or } m\overline{AC} = y = 4+x$$

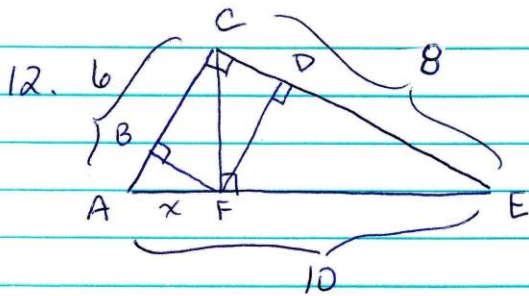
$$\frac{9}{4} = \frac{y}{3}$$

$$y = 6.75$$

$$4+x = 6.75$$

$$x = 2.75$$

11. $h^2 = m \cdot n$
 $h^2 = 200 \cdot 300$
 $h^2 = 60\,000$
 $h = \sqrt{60\,000}$
 $h = 244.95 \text{ m}$

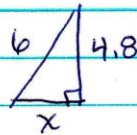


$$a \cdot b = c \cdot h$$

$$6 \cdot 8 = 10h$$

$$48 = 10h$$

$$4.8 = h$$



$$6^2 = x^2 + 4.8^2$$

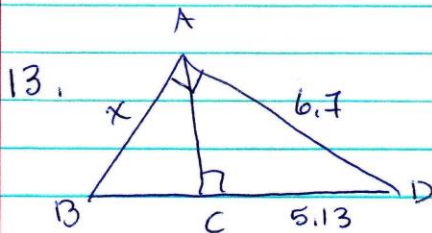
$$36 = x^2 + 23.04$$

$$36 - 23.04 = x^2$$

$$12.96 = x^2$$

$$\sqrt{12.96} = x$$

$$3.6\text{m} = x$$



$$b^2 = n \cdot c$$

$$6.7^2 = 5.13c$$

$$44.89 = 5.13c$$

$$\frac{44.89}{5.13} = c$$

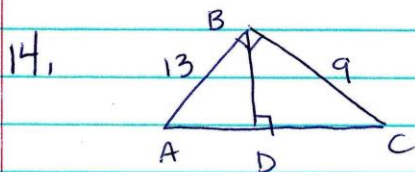
$$8.75 = c$$

$$x^2 + 6.7^2 = 8.75^2$$

$$x^2 + 44.89 = 76.57$$

$$x^2 = 31.68$$

$$x = 5.63\text{m}$$



$$9^2 + 13^2 = c^2$$

$$250 = c^2$$

$$15.81 = c$$

$$ab = ch$$

$$13 \cdot 9 = 15.81h$$

$$\frac{117}{15.81} = h$$

$$7.4\text{m} = h$$