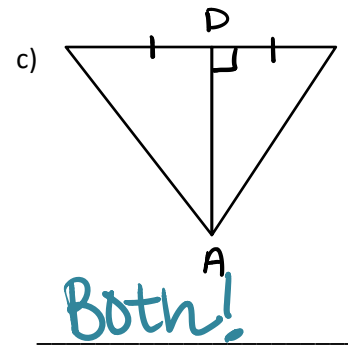
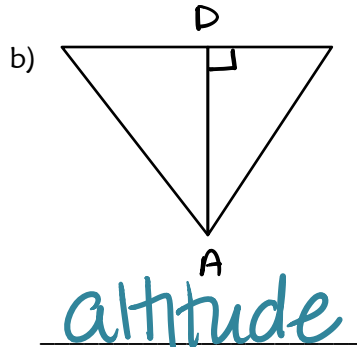
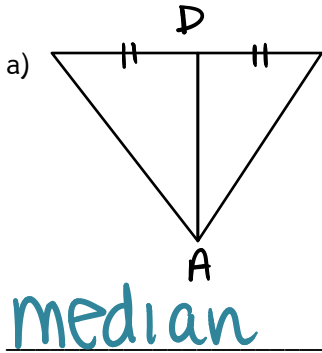


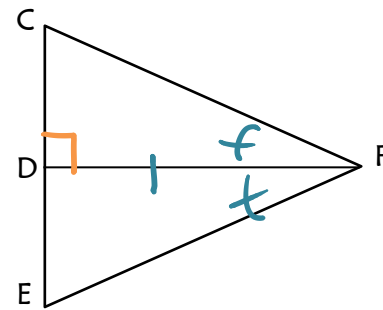
Medians, Altitudes and more CPCTC!!!

1.) For the following figures, identify \overline{AD} as a median, an altitude, neither, or both according to what can be proved.



2.) **Given:** $\angle CFD \cong \angle EFD$
 \overline{FD} is an altitude

Prove: $\overline{CF} \cong \overline{EF}$



Statements	Reasons
① $\angle CFD \cong \angle EFD$ (A)	① Given
② \overline{FD} is an altitude	② \downarrow
③ $\angle FDC$ & $\angle FDE$ Rt \angle s	③ If a seg. is an altitude, then forms Rt \angle s with opp. side
④ $\angle FDC \cong \angle FDE$ (A)	④ If 2 \angle s Rt \angle s, then \angle s \cong .
⑤ $\overline{FD} \cong \overline{FD}$ (S)	⑤ Reflexive Property
⑥ $\triangle CFD \cong \triangle EFD$	⑥ ASA (1, 5, 4)
⑦ $\overline{CF} \cong \overline{EF}$	⑦ CPCTC

3.) **Given:** \overline{TW} is a median

$$ST = x + 40$$

$$SW = 2x + 30$$

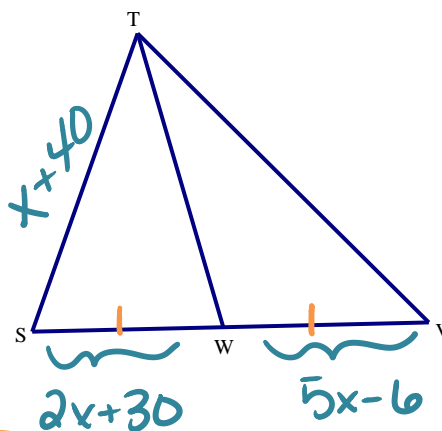
$$WV = 5x - 6$$

Find: SW , WV , and ST

$$2x + 30 = 5x - 6$$

$$\frac{36}{3} = \frac{3x}{3}$$

$$\boxed{x = 12}$$



$$ST = 12 + 40 = 52$$

$$SW = 2(12) + 30 = 54$$

$$WV = 5(12) - 6 = 54$$

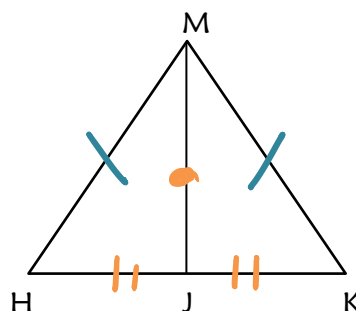
4.) **Given:**

$$\overline{HM} \cong \overline{KM}$$

\overline{MJ} is the median to \overline{HK}

Prove:

$$\angle HJM \cong \angle KJM$$



Statements

Reasons

- ① $\overline{HM} \cong \overline{KM}$ (S)
- ② \overline{MJ} is median to \overline{HK}
- ③ $\overline{HJ} \cong \overline{JK}$ (S)
- ④ $\overline{MJ} \cong \overline{MJ}$ (S)
- ⑤ $\triangle HJM \cong \triangle KJM$
- ⑥ $\angle HJM \cong \angle KJM$

- ① Given
- ② ↓
- ③ If a seg is a median, then
÷ the opp side into 2 \cong segs
- ④ Reflexive Property
- ⑤ SSS (1, 3, 4)
- ⑥ CPCTC