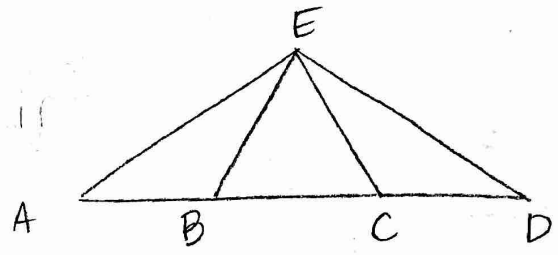
4.7 pg 267 #2-22 even, 26, 34, 47, 48

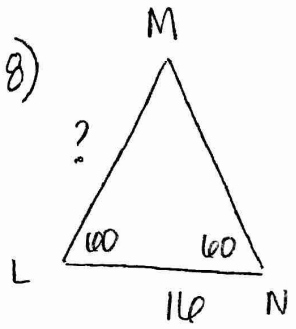
2) The base angles of an isosceles △ are ≅



4) if $\overline{AB} \cong \overline{EB}$ then $\angle A \cong \angle E$

6) if $\angle EBC \cong \angle ECB$ then $\overline{EB} \cong \overline{EC}$

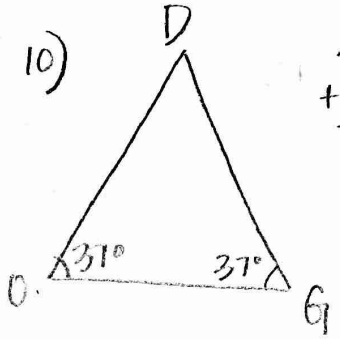
8)



$\angle M = 60°$ so $\triangle LMN$ is equilateral therefore

$\boxed{LM = 16}$

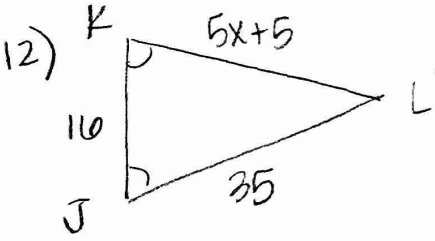
10)



$37 + 37 = 74°$ $\quad 180 - 74 = 106°$

$\boxed{m\angle D = 106°}$

12)



$5x + 5 = 35$

$5x = 30$

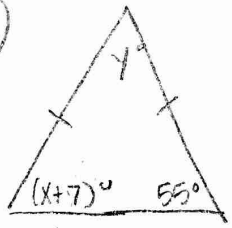
$\boxed{x = 6}$

14) Error: $\overline{AC}$ + $\overline{BC}$ are not the legs of the isosceles △ and thus are not ≅.

Correction: $\angle A \cong \angle C$ so $\overline{AB} \cong \overline{BC}$, therefore

$\boxed{BC = 5}$

16)



$x + 7 = 55°$

$\boxed{x = 48}$

$55 + 55 + y = 180$

$110 + y = 180$

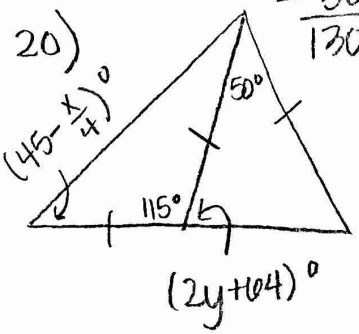
$\boxed{y = 70}$

18) NO, they could also be obtuse or right △'s.

Obtuse → The vertex ∠ could be larger than 90°

Right → The vertex ∠ could be equal to 90°.

20)



$180 - 50 = 130$ $\quad 2\overline{)130}$ $\quad 65$, 120, 10

$2y + 64 = 65$

$2y = 1$

$\boxed{y = 1/2}$

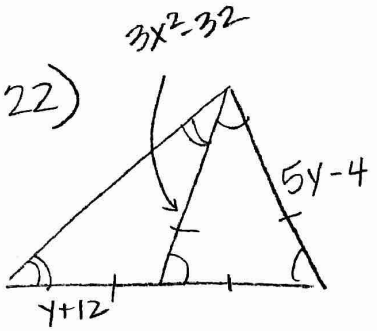
$180 - 115 = 65$ $\quad 2\overline{)65}$ $\quad 32.5$, 6, 05, 4

$45 - \frac{x}{4} = 32.5$

$-\frac{x}{4} = -12.5$

$\boxed{x = 50}$

22)



$5y-4 = y+12$

$5y = y+16$

$4y = 16$

$\boxed{y=4}$

$3x^2-32 = 5(4)-4$

$3x^2-32 = 20-4$

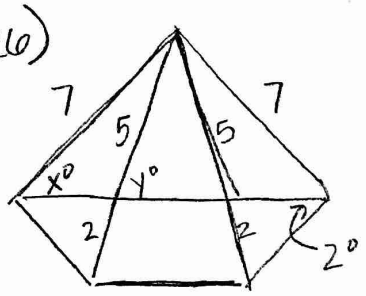
$3x^2-32 = 16$

$3x^2 = 48$

$x^2 = 16$

$\boxed{x=4}$

26)

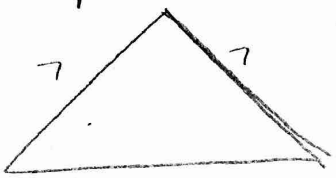


$x = 90$

$y = 68$

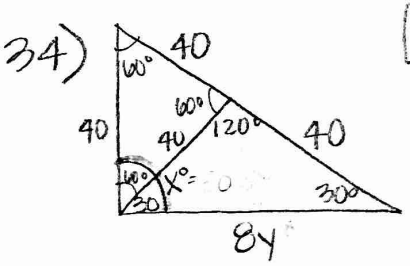
$z = 42$

NOT possible for $x=90$ b/c

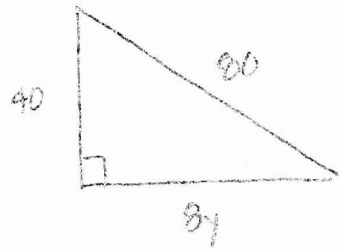


x is a base angle and thus the other base angle would have to be 90 leaving nothing for the vertex angle.

34)



$\boxed{x=90°}$



$40^2+(8y)^2 = 80^2$

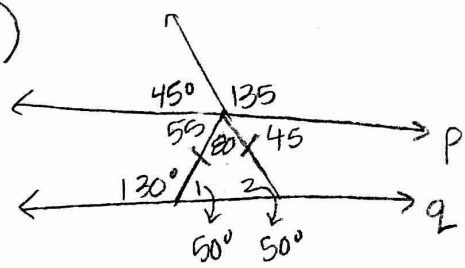
$1600+(8y)^2 = 6400$

$(8y)^2 = 4800$

$\frac{8y}{8} = \frac{69.28}{8}$

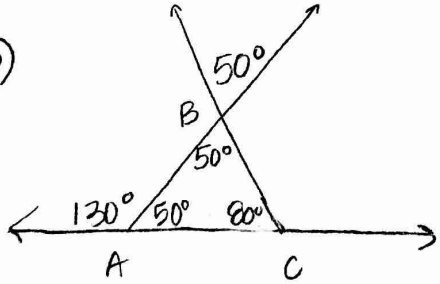
$\boxed{y=8.66}$

47)



NO p//q, because SSIA are not supplementary

48)



yes $\triangle ABC$ is isosceles b/c $\angle A \cong \angle B$