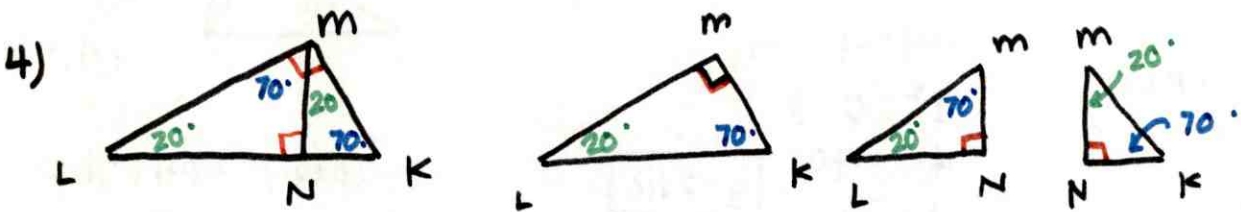
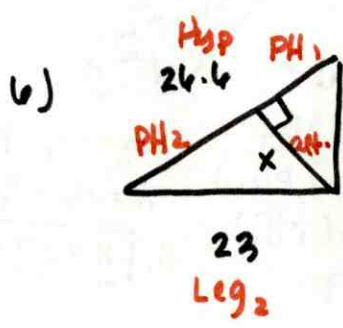


7.3



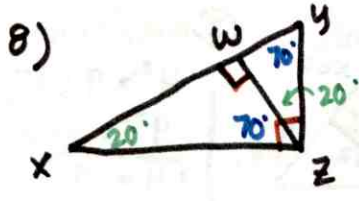
$\triangle LMK \sim \triangle LNM \sim \triangle MNK$
 20 90 70 20 90 70 20 90 70



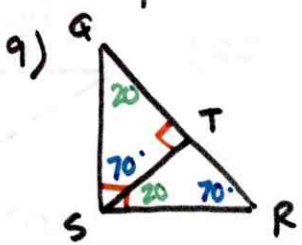
Leg₁ 12.8
 ① $(Leg_2)^2 = PH_2 \cdot Hyp$
 $(23)^2 = 26.6 (PH_2)$
 $529 = 26.6 (PH_2)$
 $PH_2 = 19.9$

② $PH_1 = Hyp - PH_2$
 $PH_1 = 26.6 - 19.9$
 $PH_1 = 6.7$

③ $(alt)^2 = PH_1 \cdot PH_2$
 $x^2 = 6.7 (19.9)$
 $x^2 = 133.3$
 $x = 11.5$
 11.2



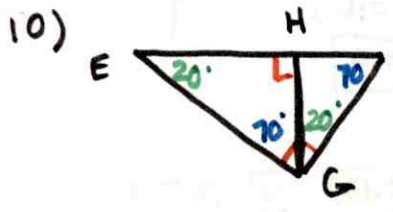
$\frac{xw}{zw} = \frac{zw}{yw}$



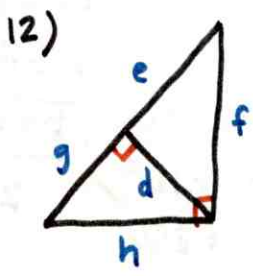
$\frac{GR}{SQ} = \frac{SQ}{TQ}$

$\triangle XZY \sim \triangle XWZ \sim \triangle ZWY$
 20 90 70

$\triangle GSR \sim \triangle GQT \sim \triangle STR$
 20 90 70

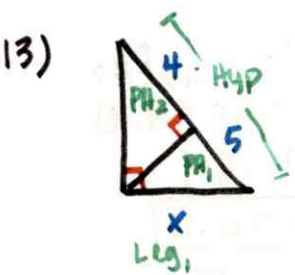


$\frac{EF}{EG} = \frac{EG}{EH}$

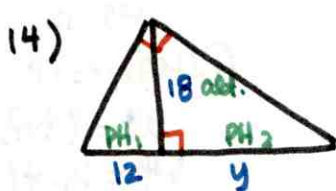


$\frac{e}{d} = \frac{d}{g}$ should say,
 $\frac{e}{d} = \frac{d}{g}$

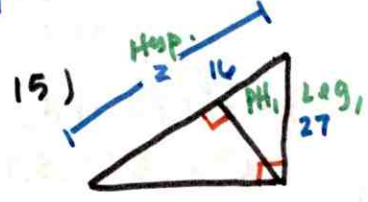
$\triangle EGF \sim \triangle EHL \sim \triangle FLG$
 20 90 70



Hyp = 4+5 = 9
 $x = 3\sqrt{5}$
 or 6.7



$(alt)^2 = PH_1 \cdot PH_2$
 $18^2 = 12y$
 $324 = 12y$
 $y = 27$



$(Leg_1)^2 = PH_1 \cdot Hyp$
 $27^2 = 16z$
 $729 = 16z$
 $z = 45.6$ or $\frac{729}{16}$

$(Leg_1)^2 = PH_1 \cdot Hyp$
 $x^2 = 5 \cdot 9$
 $x^2 = 45$
 $x = \sqrt{45}$

16) $(alt)^2 = PH_1 \cdot PH_2$
 $x^2 = 4 \cdot 9$
 $x^2 = 36$
 $x = 6$

17) $(alt)^2 = PH_1 \cdot PH_2$
 $y^2 = 5 \cdot 8$
 $y^2 = 40$
 $y = \sqrt{40} = 2\sqrt{10}$
 or 6.3

18) $PH_1 = Hyp - PH_2$
 $PH_1 = 8 - 2$
 $PH_1 = 6$
 $(Leg_1)^2 = PH_1 \cdot Hyp$
 $x^2 = 6 \cdot 8$
 $x = \sqrt{48} = 4\sqrt{3}$
 or 6.9

19) $\frac{CA}{BA} = \frac{BA}{CA}$ should be AD

20) $AC = 36, BC = 18, \text{ Find } AD?$
 $(Leg_1)^2 = PH_1 \cdot Hyp$
 $18^2 = 36(PH_1)$
 $324 = 36(PH_1)$
 $PH_1 = 9$
 $PH_2 = Hyp - PH_1$
 $x = 36 - 9$
 $x = 27$

21) $(alt)^2 = PH_1 \cdot PH_2$
 $12^2 = 18(a+5)$
 $144 = 18a + 90$
 $54 = 18a$
 $a = 3$

22) $(alt)^2 = PH_1 \cdot PH_2$
 $6^2 = 8(b+3)$
 $36 = 8b + 24$
 $12 = 8b$
 $b = 12/8$
 $b = 3/2$

23) $(Leg)^2 = PH \cdot Hyp$
 $y^2 = 9(25)$
 $y^2 = 225$
 $y = 15$
 $(alt)^2 = PH_1 \cdot PH_2$
 $12^2 = 16x$
 $144 = 16x$
 $x = 9$
 $z^2 = 16(25)$
 $z^2 = 400$
 $z = 20$

24) $(2\sqrt{89})^2 = 10^2 + 16^2$
 $356 = 100 + 256$
 $356 = 356$

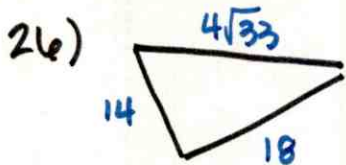
25) $(4\sqrt{13})^2 = 12^2 + 8^2$
 $208 = 144 + 64$
 $208 = 208$

① $(Leg_1)^2 = PH_1 \cdot Hyp$
 $10^2 = 2\sqrt{89}(PH_1)$
 $100 = 18 \cdot 9(PH_1)$
 $PH_1 = 5.3$
 $PH_2 = Hyp - PH_1$
 $PH_2 = 2\sqrt{89} - 5.3$
 $PH_2 = 13.6$

③ $(alt)^2 = PH_1 \cdot PH_2$
 $x^2 = 5.3(13.6)$
 $x^2 = 72.08$
 $x = 8.5$

① $(Leg_2)^2 = PH_2 \cdot Hyp$
 $8^2 = (4\sqrt{13})PH_2$
 $64 = 14.4(PH_2)$
 $PH_2 = 4.4$
 $PH_1 = Hyp - PH_2$
 $PH_1 = 4\sqrt{13} - 4.4$
 $PH_1 = 10$

③ $(alt)^2 = PH_1 \cdot PH_2$
 $x^2 = 10(4.4)$
 $x^2 = 44$
 $x = 6.6$
 $2\sqrt{11}$

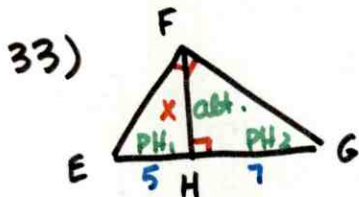


$$(4\sqrt{33})^2 > 14^2 + 18^2$$

$$528 > 196 + 324$$

$$528 > 520$$

Not a \triangle triangle



- a) Name all altitudes in $\triangle EFG$.
 FH, GF, and EF

legs are alt.

- b) Find FH.

$$(\text{alt})^2 = PH_1 \cdot PH_2$$

$$x^2 = 5(7)$$

$$x^2 = 35$$

$$x = \sqrt{35}$$

- c) Find the area of \triangle .

$$A(\triangle) = \frac{bh}{2}$$

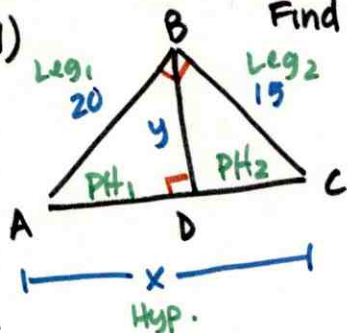
$$b = 5 + 7 \quad h = \sqrt{35}$$

$$b = 12$$

$$A = \frac{12(\sqrt{35})}{2} \quad \boxed{A = 6\sqrt{35}}$$

$$\text{or } 35.5$$

- 27) Find AC and BD.



①

$$(\text{Leg}_1)^2 = PH_1 \cdot \text{Hyp}$$

$$20^2 = 25(PH_1)$$

$$400 = 25(PH_1)$$

$$PH_1 = 16$$

②

$$PH_2 = \text{Hyp} - PH_1$$

$$PH_2 = 25 - 16$$

$$PH_2 = 9$$

③ $(\text{alt})^2 = PH_1 \cdot PH_2$

$$y^2 = 16(9)$$

$$y^2 = 144$$

$$y = 12$$

$$\boxed{BD = 12}$$

$$c^2 = a^2 + b^2$$

$$x^2 = 20^2 + 15^2$$

$$x^2 = 400 + 225$$

$$x^2 = 625$$

$$x = 25$$

$$\boxed{AC = 25}$$

or 3, 4, 5