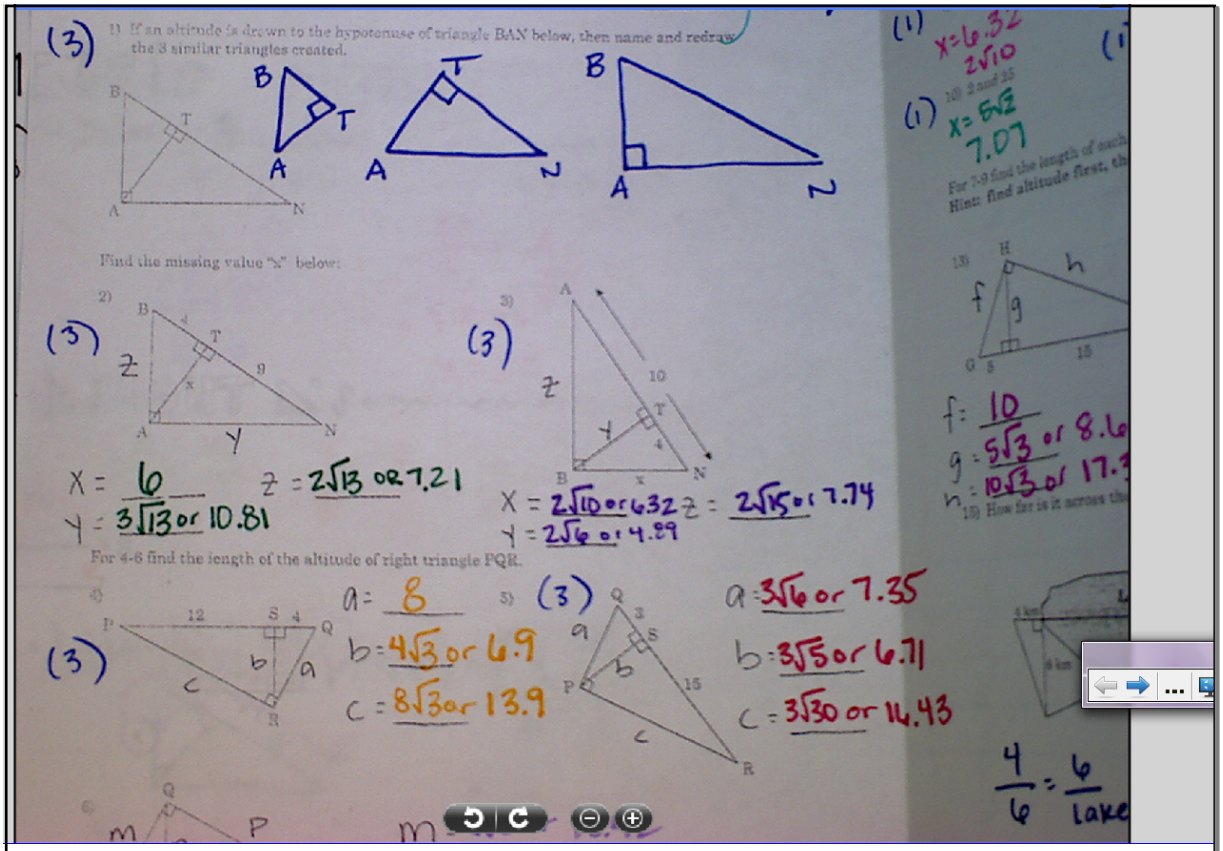
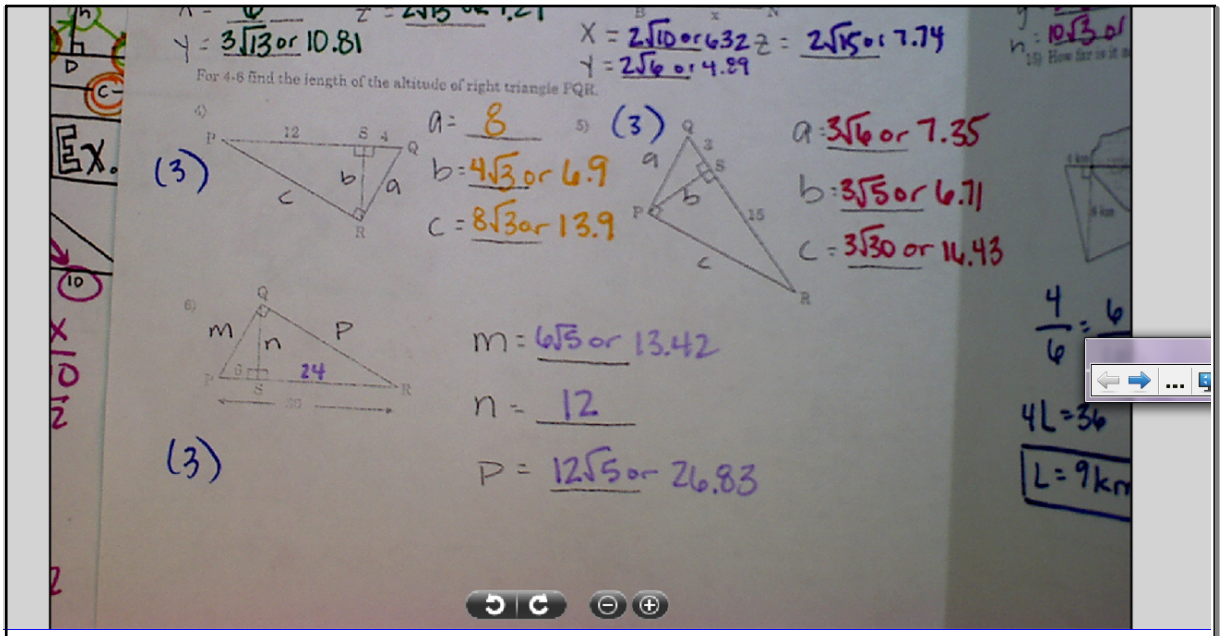
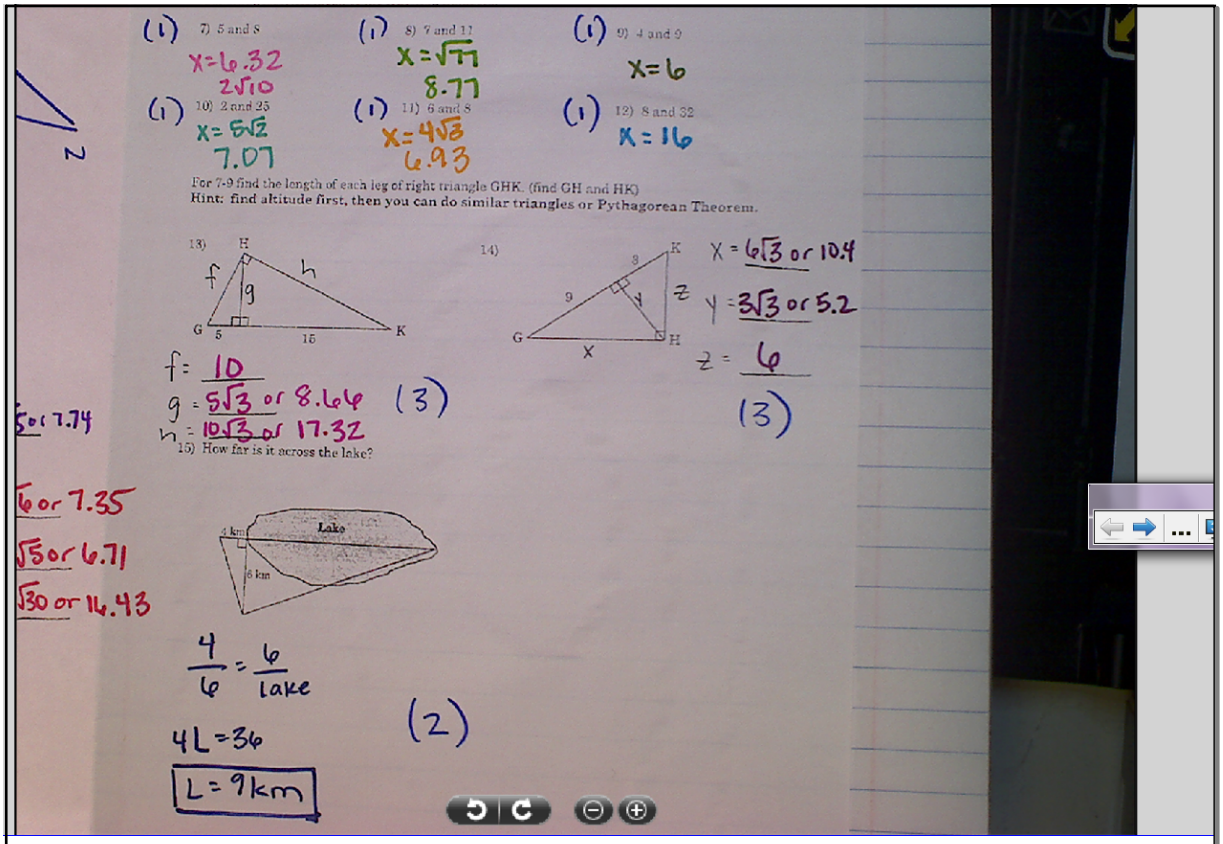


Nov 14-9:04 AM



Nov 14-9:04 AM



Nov 14-9:04 AM

1. An isosceles triangle has a perimeter of 50 in. The congruent sides measure $(2x + 3)$ cm. The length of the third side is $4x$ cm. What is the value of x?

$2x+3+2x+3+4x=50$

$8x+6=50$

$\frac{8x}{8}=\frac{44}{8}$

$x=5.5$

Nov 14-9:30 AM

2. A triangular garden plot has one side measuring 9.8 feet, a second side measuring 13.7 feet, and a third side measuring 17.6 feet. How much fencing, in feet, is required to surround the garden plot?

$9.8 + 17.6 + 13.7 = 41.1 \text{ ft}$

Nov 14-9:30 AM

3. Find the geometric mean of 17 and 5 to the nearest tenth.

$$\frac{17}{x} = \frac{x}{5} \Rightarrow x^2 = 85$$

$$x = \sqrt{85}$$

or

$$x = 9.2$$

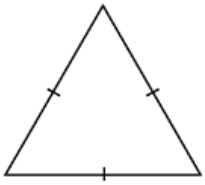
Nov 14-9:30 AM

4. A triangle is equiangular and has a perimeter of 27 inches. Determine the length of each side in inches.

△ 3⟌27 (9)

Nov 14-9:30 AM

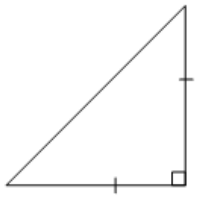
5. Classify the triangle according to its sides and angles.



Equilateral, Acute

Nov 14-9:30 AM

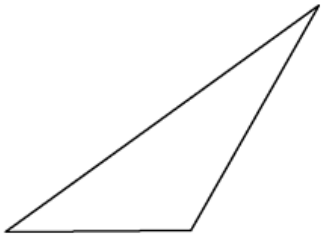
6. Classify the triangle according to its sides and angles.



Isosceles, Right

Nov 14-9:30 AM

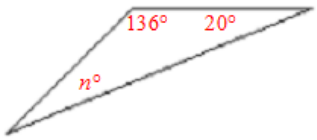
7. Classify the triangle according to its sides and angles.



Obtuse, Scalene

Nov 14-9:31 AM

8. Find n in the obtuse triangle.



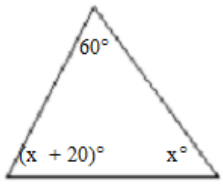
136 + 20 = 156

180 − 156 = 24

n = 24°

Nov 14-9:31 AM

9. Find the angle measures in the scalene triangle.



$2x + 80 = 180$

$-80 \quad -80$

$\frac{2x}{2} = \frac{100}{2}$

$x = 50$

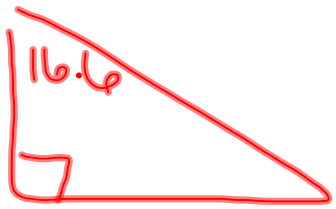
$x + 20$

$50 + 20$

70

Nov 14-9:31 AM

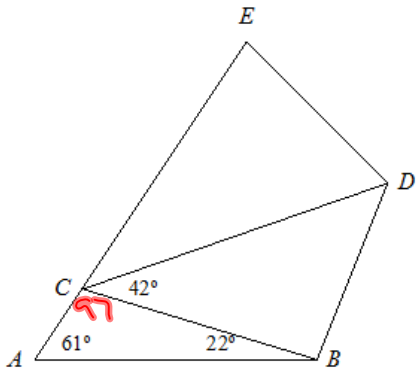
10. One of the acute angles in a right triangle has a measure of $16.6°$. What is the measure of the other acute angle?



180-90-16.6=64.4

Nov 14-9:31 AM

11. Daphne folded a triangular sheet of paper into the shape shown. Find $m\angle ECD$, given $m\angle CAB = 61°$, $m\angle ABC = 22°$, and $m\angle BCD = 42°$.



180-97-42

180-139

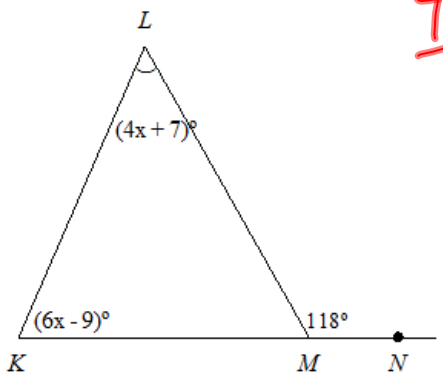
41

22+61=83

180-83=97

Nov 14-9:31 AM

12. Find $m\angle K$.



$4x+7+6x-9=118$

$10x-2=118$

$+2 \quad +2$

$10x=120$

$10 \quad 10$

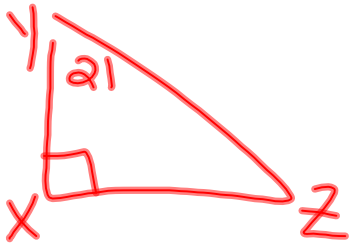
$x=12$

$6(12)-9$

$72-9=63$

Nov 14-9:32 AM

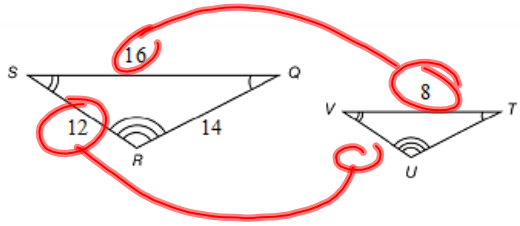
13. In the right triangle XYZ, $\angle Y$ and $\angle Z$ are both acute. If $m\angle Y = 21°$, what is $m\angle Z$?



$180-90-21=69$

Nov 14-9:32 AM

14. Given the following similar triangles, find the length of $\overline{UV}$.



$\frac{16}{8} = \frac{12}{x}$

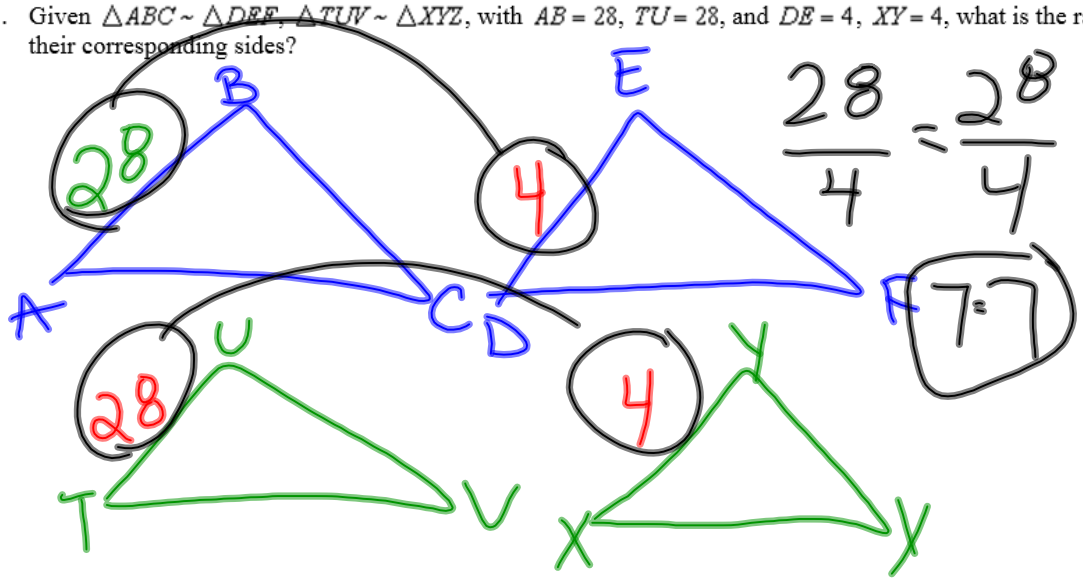
$16x = 96$

$\frac{16x}{16} = \frac{96}{16}$

$x = 6$

Nov 14-9:32 AM

15. Given $\triangle ABC \sim \triangle DEF$, $\triangle TUV \sim \triangle XYZ$, with $AB = 28$, $TU = 28$, and $DE = 4$, $XY = 4$, what is the ratio of their corresponding sides?

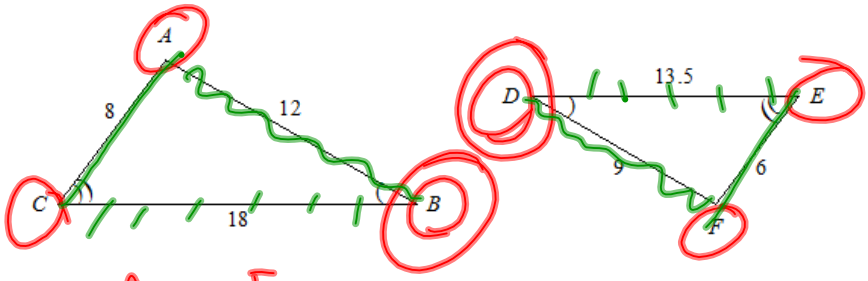


$\frac{28}{4} = \frac{28}{4}$

7:1

Nov 14-9:32 AM

16. Identify the pairs of congruent angles and proportional corresponding side lengths.



$\angle A \cong \angle F$
$\angle C \cong \angle E$
$\angle B \cong \angle D$

$\overline{CA} \cong \overline{EF}$
$\overline{AB} \cong \overline{FD}$
$\overline{BC} \cong \overline{DE}$

Nov 15-9:05 AM

17. Solve the proportion $\frac{7}{22} = \frac{9}{4w}$. Express your answer as a fraction.

$\frac{7}{22} \times \frac{9}{4w}$

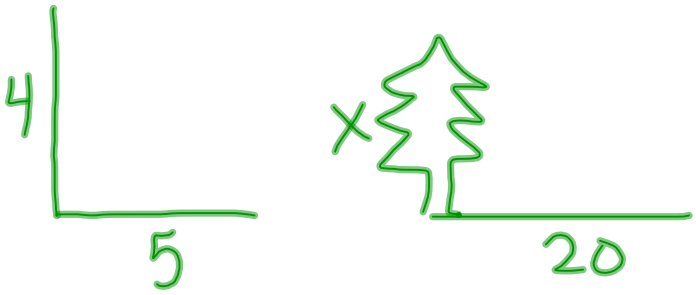
$\frac{198}{28} = \frac{28w}{28}$

$7\frac{1}{14} = w$

$\frac{99}{14} = w$

Nov 15-9:09 AM

18. On a sunny day, a 4-foot red kangaroo casts a shadow that is 5 feet long. The shadow of a nearby eucalyptus tree is 20 feet long. Write and solve a proportion to find the height of the tree.



$\frac{4}{x} \times \frac{5}{20}$

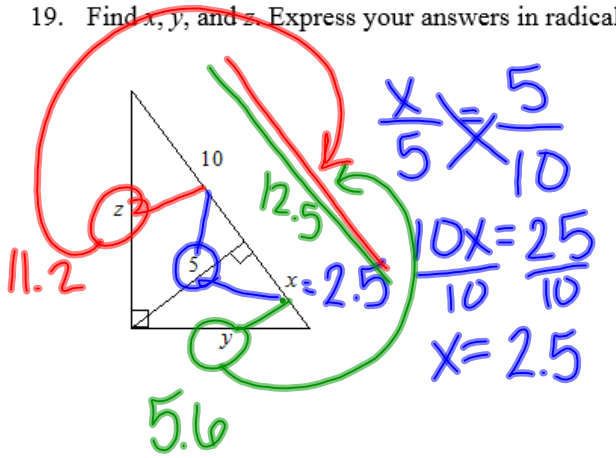
$5x = 80$

$\frac{5x}{5} = \frac{80}{5}$

$x = 16$

Nov 15-9:09 AM

19. Find x, y, and z. Express your answers in radical form.



$\frac{x}{5} = \frac{5}{10}$

$10x = 25$

$\frac{10x}{10} = \frac{25}{10}$

$x = 2.5$

$\frac{2.5}{y} = \frac{y}{12.5}$

$y^2 = 31.25$

$y = 5.6$

$\frac{10}{z} = \frac{z}{12.5}$

$z^2 = 125$

$z = 11.2$

Nov 15-9:09 AM

20. Find the geometric mean of 4 and 16.

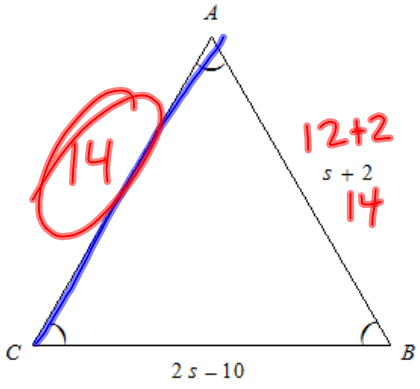
$\frac{4}{x} = \frac{x}{16}$

$\sqrt{x^2} = \sqrt{64}$

$x = 8$

Nov 15-9:09 AM

21. Find CA.



$s + 2 = 2s - 10$

$-s \quad -s$

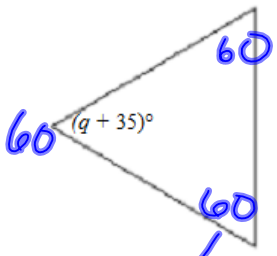
$2 = s - 10$

$+10 \quad +10$

$12 = s$

Nov 15-9:09 AM

22. Solve for q in the equilateral triangle.



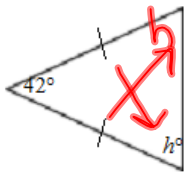
$q + 35 = 60$

$-35 \quad -35$

$q = 25$

Nov 15-9:10 AM

23. Solve for h in the isosceles triangle.



$42 + h + h = 180$

$42 + 2h = 180$

$-42 \quad -42$

$2h = 138$

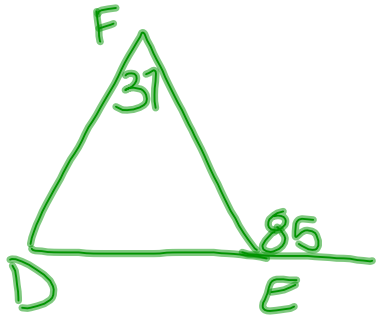
$\frac{2h}{2} = \frac{138}{2}$

$h = 69$

OR $180 - 42 = 138$, $\frac{138}{2}$

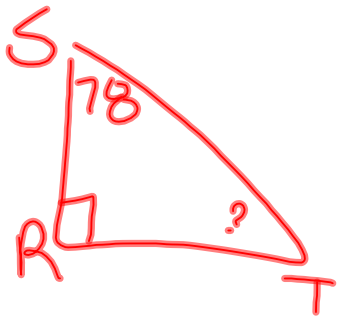
Nov 15-9:10 AM

24. In $\triangle DEF$, $m\angle F = 37°$ and the exterior angle at vertex E measures 85°. Make a sketch of $\triangle DEF$ showing the given interior and exterior angle measures.



Nov 15-9:10 AM

25. In the right triangle RST, $m\angle S = 78°$ and the right angle is at vertex R. Find the measure of $\angle T$.

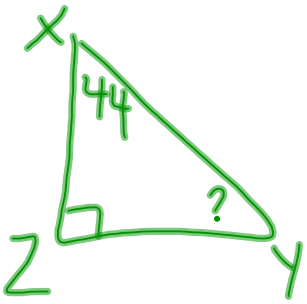


78+90=168

180-168=12

Nov 15-9:10 AM

26. In the right triangle XYZ, $m\angle X = 44°$ and the right angles is at vertex Z. Find the measure of $\angle Y$.

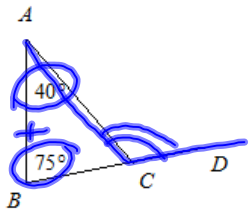


$44+90=134$

$180-134=46$

Nov 15-9:11 AM

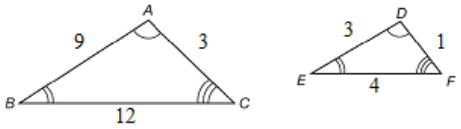
27. For $\triangle ABC$, determine the measure of $\angle ACD$.



$40+75=115°$

Nov 15-9:11 AM

28. Consider $\triangle ABC$ and $\triangle DEF$ shown below. Write a proportion to show that $AB : DE = BC : EF$.



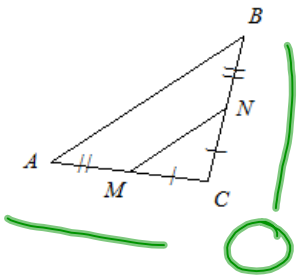
$\frac{9}{3} \times \frac{12}{4}$ → 36=36

3=3 ✓

Nov 15-9:11 AM

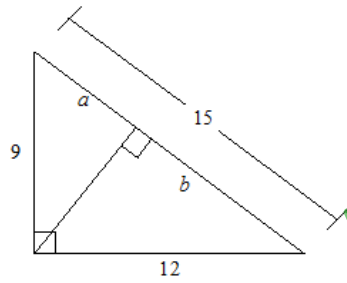
29. Prove that $\triangle ABC \sim \triangle MNC$.

SAS



Nov 15-9:12 AM

30. Given the triangle, find the missing values a and b using the relationships created by the altitude. Round your answers to the nearest hundredth if necessary.



$\frac{9}{a} = \frac{9}{15}$

$15a = 81$

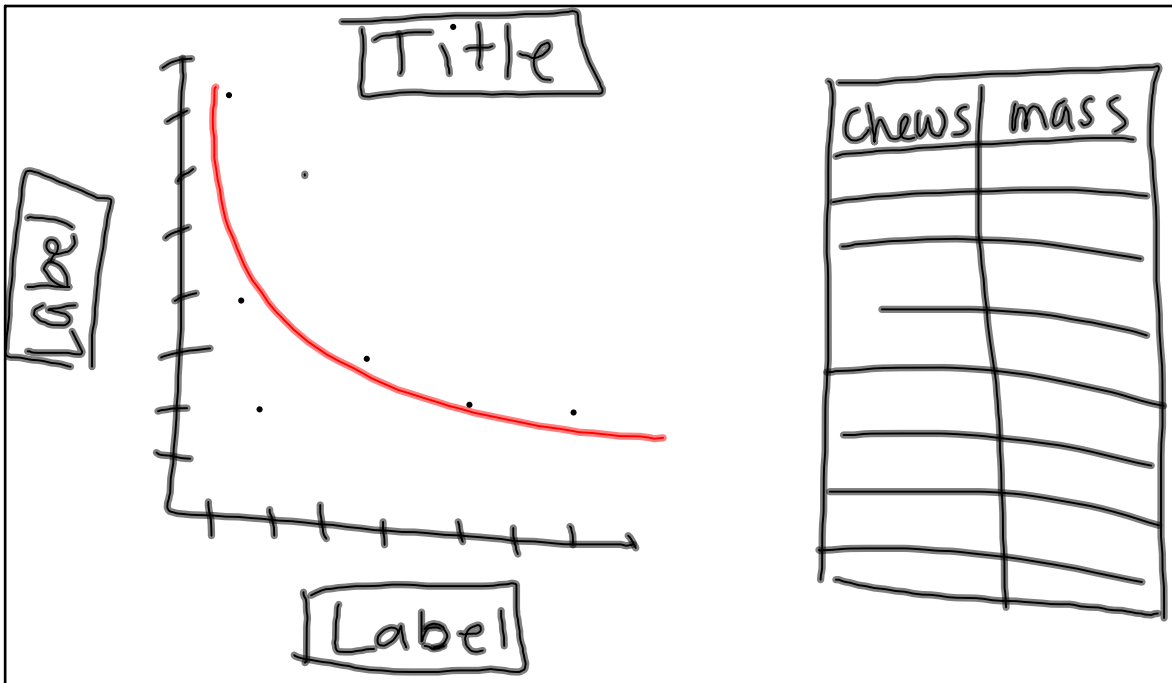
$\frac{15a}{15} = \frac{81}{15}$

$a = 5.4$

$b = 15 - 5.4$

$b = 9.6$

Nov 15-9:12 AM



Nov 15-11:38 AM

Questions

1.

2.

5. $Ca(OH)_2$

Ca O H

7. $(NH_4)_3PO_4$

Nov 15-11:50 AM