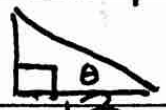
Steps:

1. Draw a picture
2. Set up the trig ratio
3. Put your answer in radical and decimal form (if applicable). Don't forget the units of measurement!

1. A right triangle ΔABC has the following characteristics
   a. $\angle B = 90°$
   b. $\cos A = \frac{4}{5}, \sin A = \frac{3}{5}$
   Find $\cos C$, $\sin C$, and $\tan C$.

CosC = 3/5
SinC = 4/5
tanC = 4/3

2. Given $\tan\Theta = \frac{5}{13}$, find $\tan(90-\Theta)$.



13/5

3. Given $\sin\Theta = \frac{6}{10}$, find $\cos(90-\Theta)$ and $\sin(90-\Theta)$.

6/10

Cos(90-θ) = 6/10

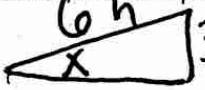
4. Lenny is planning to cut down a pine tree, and he wants to make sure that the tree will not hit his truck when it falls. The tree casts a shadow that is 150 feet long, and the angle of elevation from the base of the shadow to the top of the tree is 50°.
   a. How tall is the tree?
   b. If Lenny parked his truck 90 feet away from the base of the tree, should he move his truck?

Tan50 = X/150

178.76

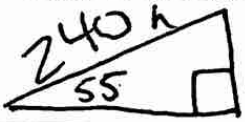
Yes

5. A skateboard ramp is 6 feet long, and it stands 3 feet high. What is the angle of elevation of the ramp to the ground?



$\sin^{-1}(3/6)$ 30°

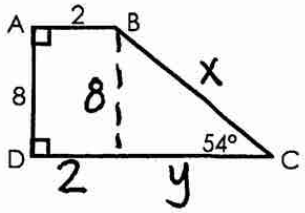
6. A kite is flown with 240 yards of string. The angle of elevation of the string is 55°. How high above the ground is the kite?



$x = 240 \sin 55$

196.6

7. Find the perimeter of trapezoid ABCD



for x = $\sin 54 = \frac{8}{x} = 9.9$

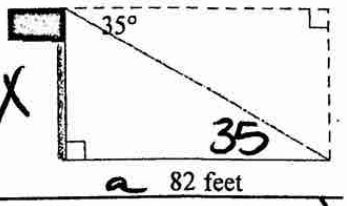
for y = $\tan 54 = \frac{8}{y} = 5.8$

perimeter = 8 + 2 + 9.9 + 5.8 + 2 =

27.7

8. The angle of depression from the top of a flag pole to a point on the ground is 35°. If the point on the ground is 82 feet from the base of the flag pole, how tall is the pole?

$\tan 35 = \frac{x}{82} = 57.4$

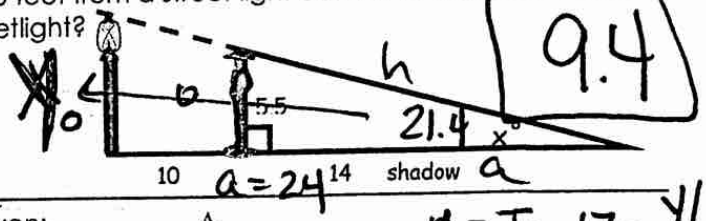


9. A 5.5 foot person standing 10 feet from a street light casts a 14 foot shadow. What is the height of the streetlight?

for x: $\tan^{-1}(5.5/14) = 21.4$

$x = \tan 21.4 = Y/24$

9.4



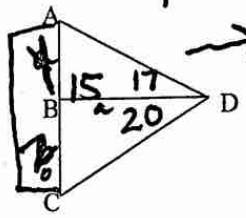
10. Find the length of side AC given:

$DB = 15\ in$

$\angle ADB = 17°$

$\angle ADC = 37°$

10.1

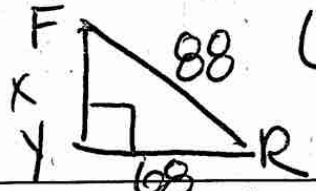


$\tan 17 = y/15 = 4.6$

$\tan 20 = z/15 = 5.5$

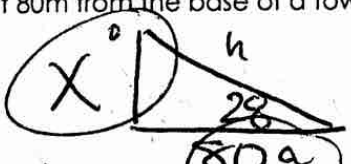
11. Find the missing sides and angles for Triangle FRY. Given that angle Y is the right angle, YR = 68, and FR = 88.

55.9



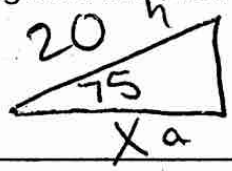
$68^2 + x^2 = 88^2$

12. From a point 80m from the base of a tower, the angle of elevation is 28°. How tall is the tower?



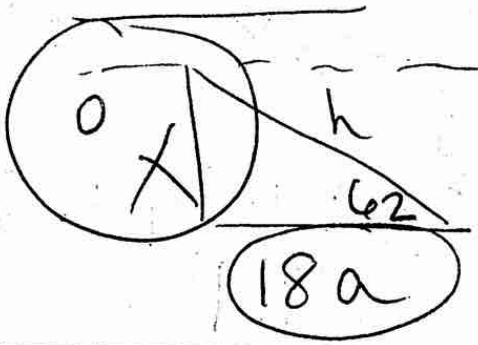
$\tan 28 = \frac{x}{80}$

13. A ladder that is 20 ft is leaning against the side of a building. If the angle formed between the ladder and ground is 75°, how far is the bottom of the ladder from the base of the building?



$\cos 75 = \frac{x}{20}$

14. When the sun is 62° above the horizon, a building casts a shadow 18m long. How tall is the building?



$\tan 62 = \frac{x}{18}$

Steps:

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1. Find the missing sides and angles for Triangle FRY. Given that angle Y is the right angle, YR = 68, and FR = 88.

#11

2. From a point 80m from the base of a tower, the angle of elevation is 28°. How tall is the tower?

4.6

#12

3. A ladder that is 20 ft is leaning against the side of a building. If the angle formed between the ladder and ground is 75°, how far is the bottom of the ladder from the base of the building?

5

#13

4. When the sun is 62° above the horizon, a building casts a shadow 18m long. How tall is the building?

#14

5. A kite is flying at an angle of elevation of about 55°. Ignoring the sag in the string, find the height of the kite if 85m of string have been let out.

X_0 85 h 55 $\sin 55 = \frac{X}{85}$

6. A 5.5 foot person standing 10 feet from a street light casts a 14 foot shadow. What is the height of the streetlight?

#9