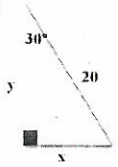
Key

Warm Ups:

Day 2:

1. A ladder leans against a building. The foot of the ladder is 6 feet from the building. The ladder reaches a height of 14 feet on the building.
   A. Find the length of the ladder 15.23 ft
   B. To the nearest degree, what angle does the ladder make with the ground? 66.8°
2. Find x and y



X = 10

y = 17.32

3. From the top of a barn 25 feet tall, you see a cat on the ground. The angle of depression of the cat is 40°. How many feet, to the *nearest foot*, must the cat walk to reach the barn?

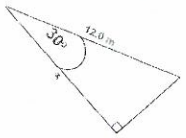
X = 29.8 ft ≈ 30 ft

Day 4: Quiz Review

1. A triangle has an acute angle such that $\sin\theta = \frac{3}{7}$. Find the other five trigonometric ratios.

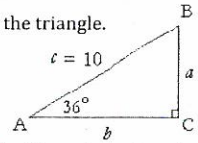
$\cos\theta = \frac{2\sqrt{10}}{7}$ $\sec\theta = \frac{7\sqrt{10}}{20}$ $\tan\theta = \frac{3\sqrt{10}}{20}$ $\cot\theta = \frac{2\sqrt{10}}{3}$ $\csc\theta = 7/3$

2. Find the side labeled x



X = 10.4

3. Solve the triangle.



b = 8.09 a = 5.9 B = 54°

4. A 30 foot flagpole casts a shadow of 135 feet long. What is the angle of elevation? 12.53°

5. The angle of depression from the top of a 180 m cliff to a log cabin is 42°. How far is the cabin from the foot of the cliff?

199.9 ft

Day 5:

1. John wants to measure the height of a tree. He walks exactly 100 feet from the base of the tree and looks up. The angle from the ground to the top of the tree is 33º. This particular tree grows at an angle of 83º with respect to the ground rather than vertically (90º). How tall is the tree? 60.6 ft

2. A building is of unknown height. At a distance of 100 feet away from the building, an observer notices that the angle of elevation to the top of the building is 41º and that the angle of elevation to a poster on the side of the building is 21º. How far is the poster from the roof of the building? 48.54 ft

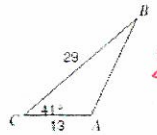
3. Triangle ABC has ∠A=32 , ∠B=81.8 , and side a = 42.9 inches. What is the measure of side c?

74.07

Day 7:

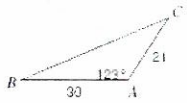
Find each measurement indicated. Round your answers to the nearest tenth.

1) Find AB



20.99 ≈ 21

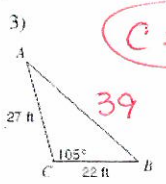
2) Find BC



45.02

Solve each triangle. Round your answers to the nearest tenth.

3)



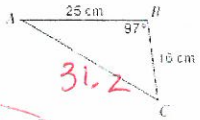
C = 39

$\frac{\sin 105}{39} = \frac{\sin B}{27}$

B = 41.97°

A = 33.03°

4)



b = 31.28

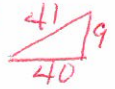
$\frac{\sin 97}{31.28} = \frac{\sin C}{25}$

C = 52.5°

A = 30.5°

Day 8: Test Review

1. Find the six trigonometric ratios given that $\sin\theta = \frac{9}{41}$

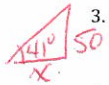


cosθ = 40/41 tanθ = 9/40

2. If a = 20, b = 33.3, and c = 24, find the biggest angle.

B = 97.96°

3. A building is 50 feet high. At a distance away from the building, an observer notices that the angle of elevation to the top of the building is 41º. How far is the observer from the base of the building?



tan 41 = 50/x

57.5 ft

4. Given triangle ABC with sides: a = 8, b = 3, c = 9, solve the triangle.

C = 99.6° A = 61.2° B = 19.18°

5. An observer is near a river and wants to calculate the distance across the river. He measures the angle between his observations of two points on the shore, one on his side and one on the other side, to be 28º. The distance between him and the point on his side of the river can be measured and is 300 feet. The angle formed by him, the point on his side of the river, and the point directly on the opposite side of the river is 128º. What is the distance across the river?