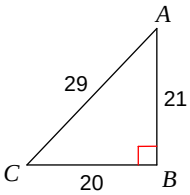
PMath 10 - Mr. Duncan Name_____

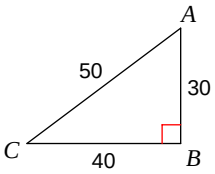
Sine, Cosine, and Tangent Practice

Find the value of each trigonometric ratio. Express your answer as a fraction in lowest terms.

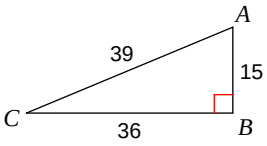
1) sin *C*



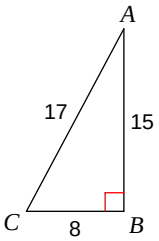
2) sin *C*



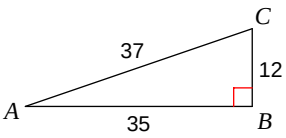
3) cos *C*



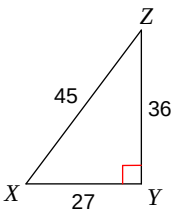
4) cos *C*



5) tan *A*



6) tan *X*



Find the value of each trigonometric ratio to the nearest ten-thousandth.

7) sin 62°

8) sin 14°

9) cos 60°

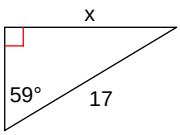
10) cos 31°

11) tan 79°

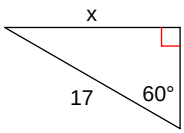
12) tan 25°

Find the missing side. Round to the nearest tenth.

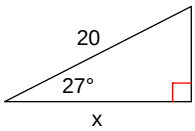
13)



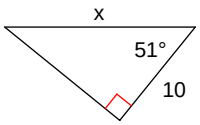
14)



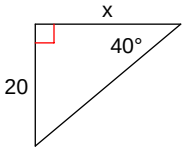
15)



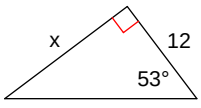
16)



17)

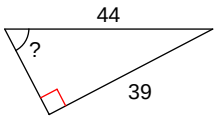


18)

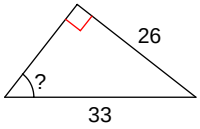


Find the measure of the indicated angle to the nearest degree.

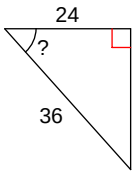
19)



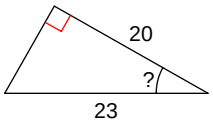
20)



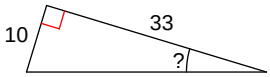
21)



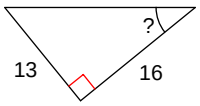
22)



23)



24)



Find each angle measure to the nearest degree.

25) sin X = 0.7547

26) sin A = 0.4540

27) cos Y = 0.5736

28) cos B = 0.5000

29) tan B = 0.6249

30) tan C = 0.1405

Solve the following word problems. For each question, draw a diagram to help you.

31) An airplane is flying at an altitude of 6000 m over the ocean directly toward a coastline. At a certain time, the angle of depression to the coastline from the airplane is 14°. How much farther (to the nearest kilometer) does the airplane have to fly before it is directly above the coastline?

32) From a horizontal distance of 80.0 m, the angle of elevation to the top of a flagpole is 18°. Calculate the height of the flagpole to the nearest tenth of a metre.

33) A 9.0 m ladder rests against the side of a wall. The bottom of the ladder is 1.5 m from the base of the wall. Determine the measure of the angle between the ladder and the ground, to the nearest degree.

34) The angle of elevation of the sun is 68° when a tree casts a shadow 14.3 m long. How tall is the tree, to the nearest tenth of a metre?

35) A wheelchair ramp is 4.2 m long. It rises 0.7 m. What is its angle of inclination to the nearest degree?

36) A person flying a kite has released 176 m of string. The string makes an angle of 27° with the ground. How high is the kite? How far away is the kite horizontally? Answer to the nearest metre.

Answers to Sine, Cosine, and Tangent Practice (ID: 1)

1) $\frac{21}{29}$
2) $\frac{3}{5}$
3) $\frac{12}{13}$
4) $\frac{8}{17}$
5) $\frac{12}{35}$
6) $\frac{4}{3}$
7) 0.8829
8) 0.2419
9) 0.5000
10) 0.8572
11) 5.1446
12) 0.4663
13) 14.6
14) 14.7
15) 17.8
16) 15.9
17) 23.8
18) 15.9
19) 62°
20) 52°
21) 48°
22) 30°
23) 17°
24) 39°
25) 49°
26) 27°
27) 55°
28) 60°
29) 32°
30) 8°
31) 24 km
32) 26.0 m
33) 80°
34) 35.4 m
35) 10°
36) 80 m high, 157 m away