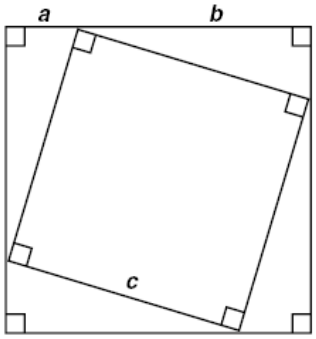
1 Sketch a proof of the Pythagorean theorem using the following diagram.

G 14.0



2 A right triangle's hypotenuse is 12. If one leg has the length of 6, then find the length of the third side.

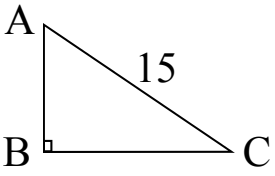
G 15.0

3 A right triangle's hypotenuse is 12. If one leg has the length of 7, then find the length of the third side.

G 15.0

4 In the figure below, Cos A = 0.8

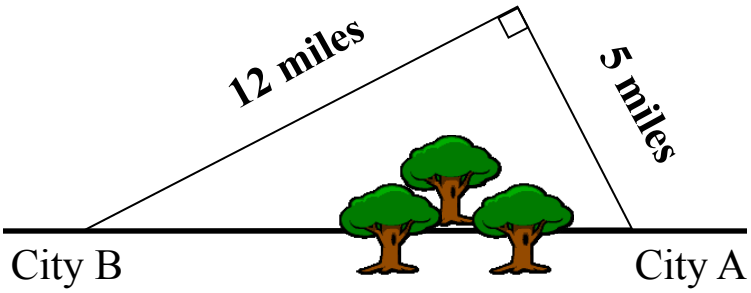
G 19.0



What is the length of $\overline{AB}$

5 A new road was built through the Tri Forest to make a shorter drive from City A to City B

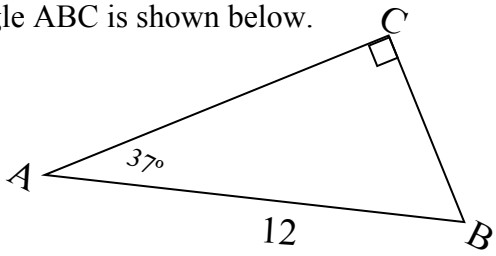
G 15.0



How many miles does the new route save?

6 Triangle ABC is shown below.

G 19.0



Write an equation should be used to find AC and BC?

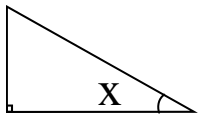
7 Given that Sin x = $\frac{5}{13}$ and Cos x = $\frac{12}{13}$ Find Tan x

G 18.0

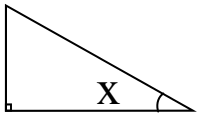
8 Given that Sin x = $\frac{9}{15}$ and Cos x = $\frac{12}{15}$ Find Tan x

G 18.0

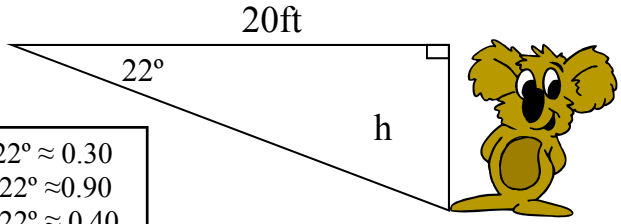
9 **G 19.0** In the figure below, if $\sin x = \frac{10}{26}$, then what is cos x and tan x.



10 **G 19.0** In the figure below, if $\cos x = \frac{12}{13}$, then what is sin x and tan x.



11 **G 19.0** You are in the stands at a Basketball playoff game and the opposing team's mascot is a huge koala?? You notice that the angle from the top of the koala's head to the ground is 22º. You are 20 ft away. Approximately how tall is the koala?

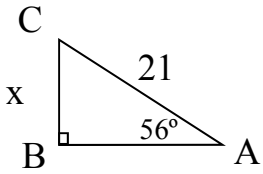


Sin 22º ≈ 0.30
Cos 22º ≈0.90
Tan 22º ≈ 0.40

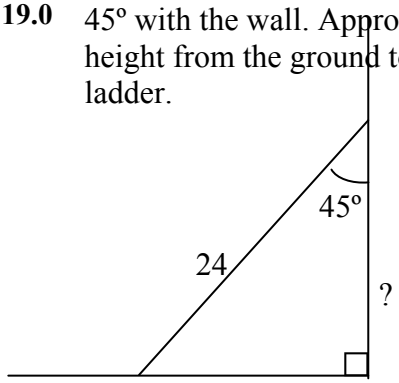
12 **G 18.0** Given that $\text{Sin } x = \frac{11}{15}$ Find Cos x using a Trig Identity.

13 **G 18.0** Given that $\text{Cos } x = \frac{7}{10}$ Find Sin x using a Trig Identity.

14 **G 19.0** In the accompanying diagram, m∠A = 56º and BC = 21. Write an equation to find x in ΔABC.

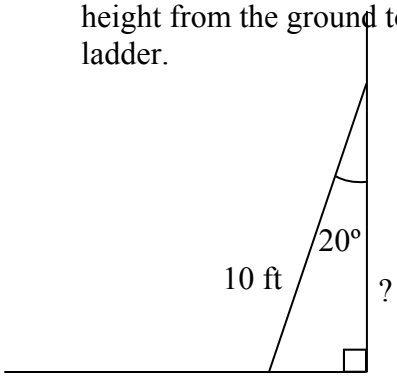


15 **G 19.0** The diagram shows an 24ft ladder rests against a wall. The ladder makes an angle of 45º with the wall. Approximately what is the height from the ground to the top of the ladder.



sin 45º ≈ 0.70
cos 45º ≈ 0.70
tan 45º ≈ 1.0

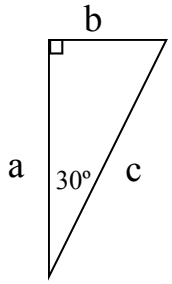
16 **G 19.0** The diagram shows an 10ft ladder rests against a wall. The ladder makes an angle of 20º with the wall. Approximately what is the height from the ground to the top of the ladder.



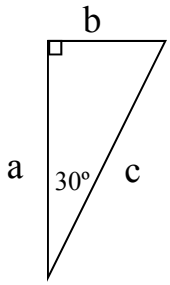
sin 20º ≈ 0.34
cos 20º ≈ 0.94
tan 20º ≈ 0.36

17 **G 15.0** If the side lengths of a triangle are 13, 8 and 14, then what type of triangle is it?

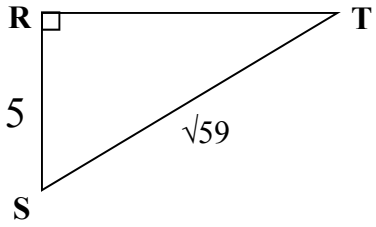
18 **G 20.0** If **a = 8 √3** in the right triangle below, what is value of b and c?



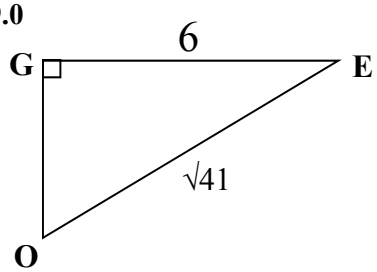
19 **G 20.0** If **a = 6** in the right triangle below, what is value of b?



20 **G 19.0** Find Sin S



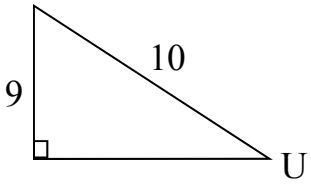
21 **G 19.0** Find Sin O and Sin E.



22 **G 1.0** Given two numbers **2** and **8**, which is greater the geometric mean or the arithmetic mean?

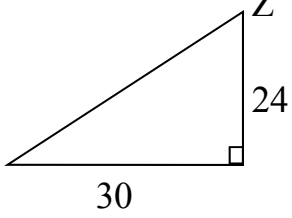
23 **G 1.0** Given two numbers **2** and **8**, which is greater the geometric mean or the arithmetic mean?

24 **G 19.0** Given the figure and table below, find the approximate m∠U.



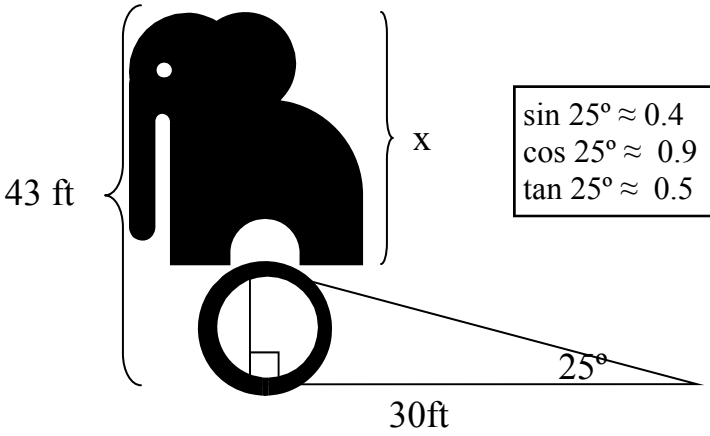
cos 45° = 0.7
sin 45° = 0.7
tan 39° = 0.8
cos 26° = 0.9
sin 64° = 0.9
tan 42° = 0.9

25 **G 19.0** Given the figure and table below, find the approximate m∠Z.



cos 45° = 0.7
sin 45° = 0.7
tan 39° = 0.8
cos 26° = 0.9
sin 64° = 0.9
tan 42° = 0.9

26 **G 19.0** You are having a nightmare about an elephant on a ball?. If the angle from the ground to the top of the ball is 25° from 30 ft away. If the total height is 43ft tall, then what is the height of the elephant?



sin 25° ≈ 0.4
cos 25° ≈ 0.9
tan 25° ≈ 0.5

27 If the side lengths of a triangle are 3, 5, and 7, then what type of triangle is it?

G 15.0

28 Write 6 Pythagorean triples

G 15.0

29 An equilateral triangle has side lengths of $15\sqrt{3}$. Find the length of the altitude.

G 20.0

30 An equilateral triangle has an altitude of $15\sqrt{3}$. Find the length of the sides.

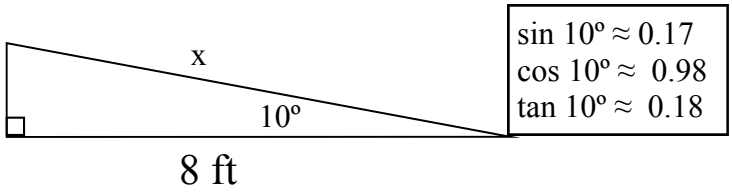
G 20.0

31 A square has a diagonal of 14. Find the length of the sides.

G 20.0

32 A wheelchair ramp is 8 feet long and is angled at 10º. Find x.

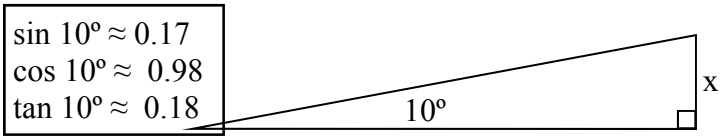
G 19.0



8 ft

33 A wheelchair ramp is 20 feet long and is angled at 10º. Find the approximate distance above the ground.

G 19.0



9 ft

34 A teeball league baseball "diamond" is a square with a side length of 36 feet. How far is the throw from third Base to first base?

G 20.0

35 A square has a side length of 6. Find the length of the diagonal

G 20.0