Trigonometry Getting Started Assignment

Squares

1. Evaluate without using a calculator.

a) 2^2

b) 3^2

c) 5^2

d) 10^2

2. Estimate. Then, calculate.

a) 5.1^2

b) 6.9^2

c) 2.23^2

d) 10.02^2

e) 62^2

f) 103.5^2

3. Evaluate.

a) $3^2 + 4^2$

b) $5.5^2 + 7.8^2$

c) $16^2 - 4^2$

d) $100 - 5^2$

e) $25 + 3^2$

f) $4.02^2 - 2.01^2$

Square Roots

4. Calculate. Express your answer to the nearest tenth.

a) $\sqrt{4}$

b) $\sqrt{25}$

c) $\sqrt{68}$

d) $\sqrt{105}$

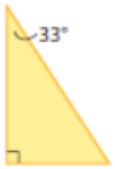
e) $\sqrt{10.25}$

f) $\sqrt{35.75}$

Right Triangles

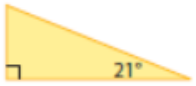
5. Determine the measure of each unknown angle.

a)



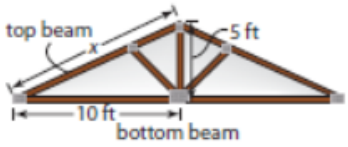
b)

c)



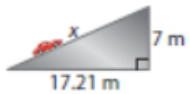
6. Determine the length of each unknown. Express your answers to two decimal places, if necessary.

a) Bart is building a roof truss. Determine the length of the top beam.



b) Dylan is using a moving ramp to load furniture into a truck. Determine the horizontal length of the ramp.

c) Tammy is driving her car up a steeply sloped road. Determine the length of the road.



R FELIX

Solve Equations

7. Solve for x. Express your answer to the nearest tenth.

a) $5 = \frac{15}{x}$

b) $3.5 = \frac{10}{x}$

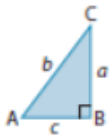
c) $20 = \frac{x}{4}$

d) $2.75 = \frac{x}{5.03}$

e) $10.01x = 2.06$

Trigonometric Ratios

8. State the trigonometric ratios for each angle.



a) tan A

b) cos C

c) sin A

9. a) Estimate the size of $\angle D$, in degrees.

b) Which side is adjacent to $\angle D$? Which side is opposite?

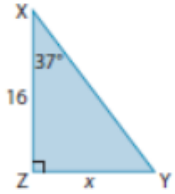
c) Assume that side e measures 10 cm and the hypotenuse measures 25 cm. What trigonometric ratio would you use to find $\angle D$?

d) Use your trigonometric ratio in part c) to calculate the measure of $\angle D$.

e) Compare your calculation for part d) to your estimate in part a). How close were you?

10. Determine the length of each indicated side. Express your answers to two decimal places. The first one is done for you.

a)



$\tan 37° = \frac{x}{16}$

The unknown side is opposite $\angle X$.
The side adjacent to $\angle X$ is 16.
The tangent ratio is opposite divided by adjacent.
Use the tangent ratio:

$\tan 37° = \frac{x}{16}$

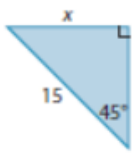
$16(\tan 37°) = \left(\frac{x}{16}\right)16$

$16(\tan 37°) = x$

$12.056\ldots = x$

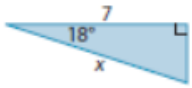
$12.06 \approx x$

b)



$\sin 45° = \frac{x}{15}$

c)



$\cos 18° = \frac{7}{x}$

Attachments

Right Triangle.gsp