

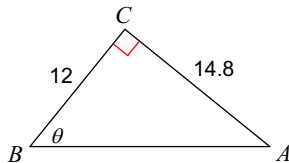
SM3-A HW #12-1 (density, solve for a variable)

Date _____ Period _____

- 1) A rectangle with a width of $(5x + 2)$ feet and a length of $(2x - 1)$ feet has an area of 100 square feet. What is the rectangle's width and length?
- 2) A rectangle with a width of $(2x + 5)$ feet and a length of $(3x - 1)$ feet, has an area of 250 square feet. What is the rectangle's width and length?
- 3) Working alone, Norachai can pick forty bushels of apples in 12 hours. Anjali can pick the same amount in 10 hours. If they worked together how long would it take them?
- 4) Working alone, it takes Jill 14 hours to clean an attic. Julia can clean the same attic in 16 hours. Find how long it would take them if they worked together.

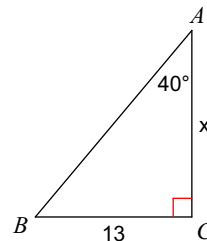
**Find the measure of each angle indicated.
Round to the nearest tenth.**

5)



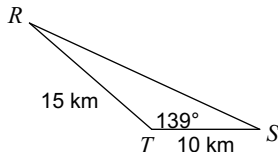
**Find the measure of each side indicated.
Round to the nearest tenth.**

6)



Find the area of each triangle to the nearest tenth.

7)



8) Solve for T:

$$\frac{1}{T^2} = \frac{g}{4 \cdot \pi^2}$$

9) Solve for M:

$$\frac{r}{y} = \sqrt{\frac{N}{M}}$$

10) Solve for n:

$$a = b + (n - 1)d$$

11) Solve for r:

$$V = \pi r^2 \cdot h$$

12) Solve for b:

$$A = \frac{1}{2}bh$$

13) Solve for r:

$$V = \frac{4\pi r^3}{3}$$

14) Solve for v:

$$E = \frac{1}{2}mv^2$$

15) Solve for R:

$$T = \frac{24(R - r)}{L}$$

16) $g(x) = -4\sqrt[3]{x + 5} - 6$ $f(x) = \sqrt[3]{x}$

a) Describe how $g(x)$ is a transformation of $f(x)$

b) replace $g(x)$ with 'y' then solve the equation for 'x'.

17) $A = b + (n - 1)d$ could be described as "A(b, d, n)" (A is a function of variables 'b', 'd', and 'n').

18) $A = b + (n - 1)d$ could be described as "A(b, d, n)" (A is a function of variables 'b', 'd', and 'n').

Describe the following function: $E = \frac{1}{2}mv^2$
using the same notation.

Describe the following function:
 $T = 24 \cdot \frac{R - r}{L}$ using the same notation.

19) A sphere has a radius of 5 feet. It has a mass of 1000 lbm. What is the density of the sphere? Round to the nearest 1/10th.

20) A cone has a radius of 3 feet and a height of 3 feet. It has a mass of 500 lbm. What is the density of the cone? Round to the nearest 1/10th.