

Solutions

Foundations Math Review

Round answers to the nearest tenth (1 decimal place)

1) Solve each proportion.

a) $\frac{2}{r} = \frac{12}{18}$

$$r = \frac{(2 \times 18)}{12} = 3$$

$r = 3$

b) $\frac{50}{20} = \frac{5}{h}$

$$h = 2$$

c) $\frac{45}{27} = \frac{x}{3}$

$$x = 5$$

d) $\frac{v}{84} = \frac{2}{21}$

$$v = 8$$

e) $\frac{b}{8} = \frac{8}{64}$

$$(8 \times 8) \div 64 = 1$$
$$b = 1$$

f) $\frac{13}{3} = \frac{26}{c}$

$$(3 \times 26) \div 13$$
$$c = 6$$

g) $\frac{27}{15} = \frac{72}{a}$

$$\frac{15 \times 72}{27} = 40$$
$$a = 40$$

h) $\frac{m}{1.8} = \frac{12.8}{0.8}$

$$(1.8 \times 12.8) \div 0.8$$
$$m = 28.8$$

i) $\frac{1.2}{73.2} = \frac{r}{91.5}$

$$(1.2 \times 91.5) \div 73.2$$
$$r = 1.5$$

j) $\frac{18.4}{f} = \frac{22.8}{11.4}$

j) $(18.4 \times 11.4) \div 22.8$

$$f = 9.2$$

k) $\frac{28.8}{1.8} = \frac{6.4}{z}$

k) $(1.8 \times 6.4) \div 28.8$

$$z = 0.4$$

l) $\frac{32.3}{1.7} = \frac{7.6}{d}$

l) $(1.7 \times 7.6) \div 32.3$

$$d = 0.4$$

m) $\frac{s}{1.4} = \frac{33.6}{5.6}$

m) $(1.4 \times 33.6) \div 5.6$

$$s = 8.4$$

n) $\frac{43.7}{v} = \frac{71.3}{3.1}$

n) $(43.7 \times 3.1) \div 71.3$

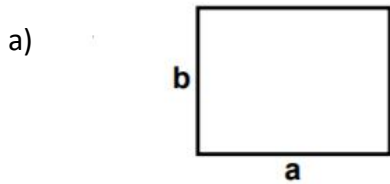
$$v = 1.9$$

o) $\frac{50.4}{7.2} = \frac{w}{4.6}$

o) $(50.4 \times 4.6) \div 7.2$

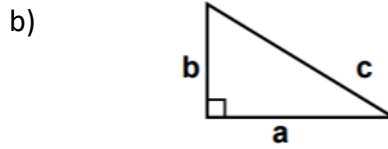
$$w = 32.2$$

2) Use your formula sheet to solve each of the following. SHOW WORK!



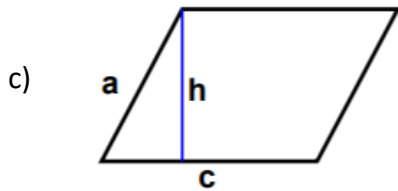
$a = 7.6 \text{ ft}$ $b = 5.8 \text{ ft}$

Area: $A = a \times b = 7.6 \times 5.8 = 44.08 \text{ ft}^2$
 Perimeter: $= 2(a+b) = (7.6 \text{ ft} + 5.8 \text{ ft}) \times 2 = 26.8 \text{ ft}$



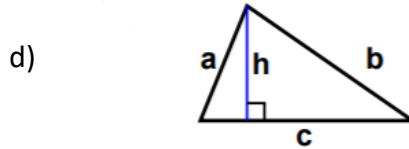
$a = 7.4 \text{ yds}$ $b = 4.5 \text{ yds}$
 $c = 8.66 \text{ yds}$

Area: $A = \frac{a \times b}{2} = \frac{7.4 \times 4.5}{2} = 16.65 \text{ yd}^2$
 Perimeter: $a + b + c = 7.4 + 4.5 + 8.66 = 20.56 \text{ yds}$



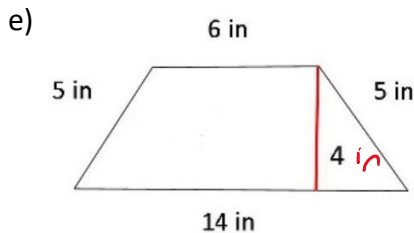
$a = 6.19 \text{ yds}$
 $c = 8.2 \text{ yds}$ $h = 5.8 \text{ yds}$

Area: $h \times c = 5.8 \times 8.2 = 47.56 \text{ yd}^2$
 Perimeter: $2(a+c) = 2(6.19 + 8.2) = 28.78 \text{ yd}$

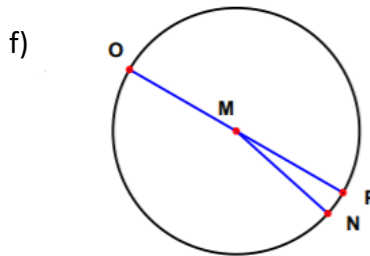


$a = 4.97 \text{ inches}$ $b = 8.07 \text{ inches}$
 $c = 8.5 \text{ inches}$ $h = 4.6 \text{ inches}$

Area: $A = \frac{h \times c}{2} = \frac{4.6 \times 8.5}{2} = 19.55 \text{ in}^2$
 Perimeter: $a + b + c = 4.97 + 8.07 + 8.5 = 21.54 \text{ in}$

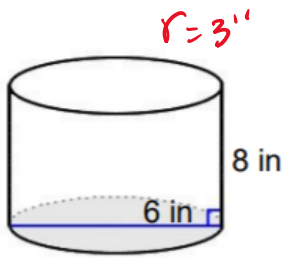


Area: $\frac{4(6+14)}{2} = 40 \text{ in}^2$
 Perimeter: $6 + 5 + 14 + 5 = 30 \text{ in}$



Radius: 9 cm
 Diameter: 18 cm
 Circumference: $2\pi r \text{ or } \pi d = 56.55 \text{ cm}$
 Area: $\pi r^2 = \pi \cdot 9^2 = 254.47 \text{ cm}^2$

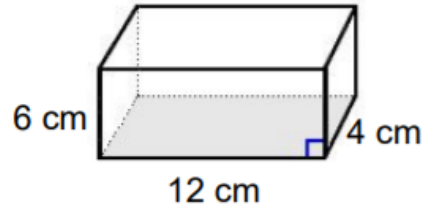
g)



$$\text{Surface Area} = 2\pi r^2 + 2\pi rh = 207 \text{ in}^2$$

$$\text{Volume} = \pi r^2 h = 226.19 \text{ in}^3$$

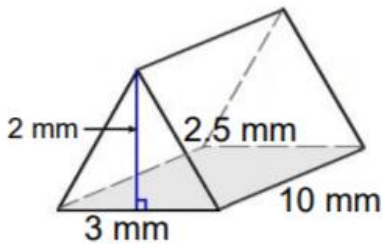
h)



$$\text{Surface Area} = 2(6 \times 12 + 12 \times 4 + 4 \times 6) = 288 \text{ cm}^2$$

$$\text{Volume} = 6 \times 12 \times 4 = 288 \text{ cm}^3$$

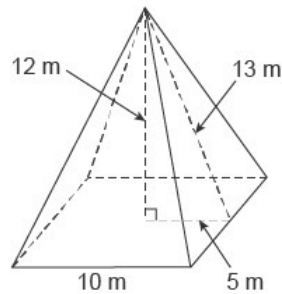
i)



$$\text{Surface Area} = 2\left(\frac{2 \times 3}{2}\right) + 2(10 \times 2.5) + 3 \times 10 = 86 \text{ mm}^2$$

$$\text{Volume} = \frac{(2 \times 3)}{2} \times 10 = 30 \text{ mm}^3$$

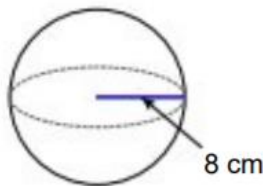
j)



$$\text{Surface Area} = 10^2 + 4\left(\frac{10 \times 13}{2}\right) = 360 \text{ m}^2$$

$$\text{Volume} = \frac{b^2 h}{3} = \frac{10^2 \times 12}{3} = 400 \text{ m}^3$$

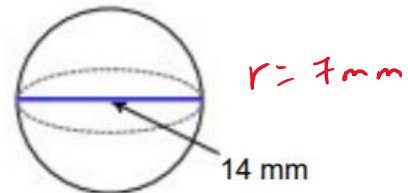
k)



$$\text{Surface Area: } 4\pi r^2 = 4\pi \cdot 8^2 = 804.25 \text{ cm}^2$$

$$\text{Volume: } \frac{4\pi r^3}{3} = \frac{4\pi \cdot 8^3}{3} = 2144.66 \text{ cm}^3$$

l)



$$\text{Surface Area: } 4\pi r^2 = 4\pi \cdot 7^2 = 615.75 \text{ mm}^2$$

$$\text{Volume: } \frac{4\pi r^3}{3} = \frac{4\pi \cdot 7^3}{3} = 1436.76 \text{ mm}^3$$