

P. 369 Working with Formulas

Jan 14/16

1. For the formula  $A = Lw$

a) find  $A$ , if  $L = 8\text{cm}$ ,  $w = 5\text{cm}$

$$A = Lw$$

$$A = (8)(5)$$

$$A = 40\text{cm}^2$$

2. for  $C = 2\pi r$        $\pi = \pi$

a) Find  $C$ , if  $r = 10\text{cm}$

$$C = 2\pi r$$

$$C = 2(3.14)(10)$$

$$C = 62.8\text{cm}$$

b) find  $r$ , if  $C = 628\text{cm}$

$$\frac{C}{2\pi} = \frac{2\pi r}{2\pi}$$

$$r = \frac{C}{2\pi}$$

$$r = \frac{628}{2(3.14)}$$

$$r = \frac{628}{6.28}$$
$$r = 100\text{cm}$$

$$3a) A = \frac{1}{2}bh$$

a) find  $A$ , if  $b=6\text{cm}$ ,  $h=8\text{cm}$

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

$$A = \frac{6(8)}{2}$$

$$A = \frac{48}{2}$$

$$A = 24\text{cm}^2$$

1c. Find  $L$ , if  $A = 238 \text{ m}^2$ ,  $w = 14 \text{ m}$

$$\frac{A}{w} = \frac{Lw}{w}$$

$$L = \frac{A}{w}$$

$$L = \frac{238 \text{ m}^2}{14 \text{ m}}$$

$$L = 17 \text{ m}$$

3c. find  $b$ ,  $A = 61.5 \text{ m}^2$   
 $h = 20.5 \text{ m}$

$$2A = \frac{1 \times b \times h}{2 \times 1}$$

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

$$b = \frac{2(61.5)}{20.5}$$

$$b = 123$$

$$b = 6 \text{ m}$$

4. for the formula  $P = 2(L + w)$

a)  $P$ , if  $L = 9\text{m}$  and  $w = 6\text{m}$

$$P = 2(L + w)$$

$$P = 2(9 + 6)$$

$$P = 2(15)$$

$$P = 30\text{m}$$

9.  $\frac{E}{c^2} = \frac{mc^2}{c^2}$  for  $\frac{m}{1}$

$$m = \frac{E}{c^2}$$



10.  $\frac{2A}{1 \times 2} = \frac{\overset{x1}{h}(a+b)}{2 \times 1}$ , for b

$$2A = h(a+b)$$

$$2A - ha = hb$$

$$\frac{2A - ha}{h} = b$$



# Rate of Work Problems.

Given

Ahmed takes 2h to mow lawn.

Sami takes 4h to mow it.

Find: what fraction of the lawn does each mow in 1h?

Ahmed mows  $\frac{1}{2}$  lawn in 1h.

Sami mows  $\frac{1}{4}$  lawn in 1h.



3. <sup>Given</sup> Julio fills water tank in 4 min  
using large hose. It takes 6 min  
with small hose.

Find: how long to fill tank using  
both hoses

Let  $x$  = combined time

$$\frac{3x}{4 \times 3} + \frac{2x}{6 \times 2} = \frac{1 \times 12}{1 \times 12}$$

$$\frac{5x}{5} = \frac{12}{5}$$
$$x = 2.4 \text{ min}$$

5. Given: Murray can tile in 1h  
and his partner in  $\frac{1}{2}$  the time.

Find: how long together

Let  $x$  = combined time

$$\frac{0.5x}{1 \times 0.5} + \frac{1x}{1 \times 0.5} = \frac{1 \times 0.5}{1 \times 0.5} \quad x = 0.3$$
$$\frac{0.5x}{1 \times 0.5} + \frac{1x}{1 \times 0.5} = 0.5 \quad x = \frac{60}{3}$$

$$0.5x + 1x = 0.5$$
$$\frac{1.5x}{1.5} = \frac{0.5}{1.5} \quad x = \frac{1}{3}$$

1h/1

4.)

find L if  $P = 84.2m$ ,  $w = 5.4m$

10. find a

$$2A = \frac{1}{2} h(a+b)$$

$$a = \frac{2A - hb}{h}$$

$$2A = h(a+b) - hb$$

$$a = \frac{2A}{h} - b$$

$$2A = ha + hb - hb$$

$$\frac{2A - hb}{h} = \frac{ha}{h}$$

# Homework

Working with Formulas

p. 369 - 5, 6, 7, 8, 11, 13, 14

Rate of Work

Back of Outline - 2, 4, 6, 7, 8