

P. 369 Working with Formulas Jan 7, 2023

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

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

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

$$P = 2(15)$$

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

b) find w , if $P = 60\text{m}$
 $L = 16\text{m}$

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

$$\frac{P - 2L}{2} = \frac{2w}{2}$$

$$w = \frac{P - 2L}{2}$$

$$w = \frac{60 - 2(16)}{2}$$

$$w = \frac{60 - 32}{2}$$

$$w = \frac{28}{2} \text{ Km}$$
$$w = 14\text{m}$$

P. 372

Developing Formulas

1.	$\frac{a}{b}$	1	2	3	4	5	6	7
		3	6	9	12	15	18	21

$$3a = b$$

2.	$\frac{m}{n}$	2	4	6	8	10	12	14
		5	7	9	11	13	15	17

$$m+3 = n$$

3.

t	25	24	23	22	21	20	19
u	100	96	92	88	84	80	76

$$4t = u$$

4. Number of books (n)

1	2	3	4
40	80	120	160

Cost (c)

$$c = 40n$$

Rate of Work Problems

1. Ahmed : 2 hours to mow lawn
Sami : 4 hours to mow lawn

$\frac{1}{2}$ of the lawn in 1 hour for A.

$\frac{1}{4}$ of the lawn in 1 hour for S.

3. Given: 4 min to fill tank with large
hose
6 min with a small hose
Find: how long to fill tank with both
hoses?

Let x = combined time.

$$\frac{3x}{4 \times 3} + \frac{2x}{6 \times 2} = \frac{1 \times 12}{1 \times 12} \leftarrow \text{represents filling the tank - 1 job}$$

$$\begin{aligned} 3x + 2x &= 12 \\ \frac{5x}{5} &= \frac{12}{5} \end{aligned} \quad \left. \begin{array}{l} \\ \end{array} \right\} x = 2.4 \text{ min}$$

$\therefore$ It takes two minutes
24 sec to fill tank
with both hoses

5. Given: Murray tiles floor in 1 hour
His partner can do the job in $\frac{1}{2}$ hour
Find: How long to tile floor if work together

Let x = combined time

$$\left[\frac{x^2}{1x^2} + \frac{1x}{2x^1} = \frac{1x^2}{1x^2} \right]$$

$$2x + 1x = 2$$

$$\frac{3x}{3} = \frac{2}{3}$$

$$x = \frac{2}{3} \text{ hour}$$

$\therefore$ It will take
40 min
working
together

Given:

9. Mary takes 3h to do job. Mary + Jim together take 2h.

Find: how long does it take Jim working alone.

Find: Jim's time alone

$$\frac{2x}{3x} + \frac{3(2)}{3x} = \frac{1 \times 3x}{1 \times 3x}$$

$$2x^{-2x} + 6 = 3x^{-2x}$$

$$6 = x$$

∴ It would take Jim 6h by himself.

P. 149 Square Roots and Powers

$$1. \sqrt{49}$$

$$= 7$$

$$2. \sqrt{81}$$

$$= 9$$

$$3. \sqrt{121}$$

$$= 11$$

$$4. \sqrt{625}$$

$$= 25$$

$$5. \sqrt{0.64}$$

$$= 0.8$$

$$6. \sqrt{0.01}$$

$$= 0.1$$

$$7. \sqrt{1.96}$$

$$= 1.4$$

$$8. \sqrt{0.25}$$

$$= 0.5$$

$$9. \sqrt{25}$$

$$= 5$$

$$10. \sqrt{100}$$

$$= 10$$

$$11. \sqrt{225}$$

$$= 15$$

$$12. \sqrt{256}$$

$$= 16$$

$$13. \sqrt{169}$$

$$= 13$$

$$14. \sqrt{0.36}$$

$$= 0.6$$

$$15. \sqrt{0.04}$$

$$= 0.2$$

Homework

p. 369

p. 372

back of pink sheet

1-6 handout

front
of
handout

$$9. \quad \frac{E}{c^2} = \frac{mc^2}{c^2}$$

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

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

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

for m

$$10. \quad \frac{1}{2} \left[A = \frac{h(a+b)}{2} \right] \text{ for } b$$

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

$$\begin{aligned} 2A &= h(a+b) \\ 2A - ha &= ha + hb \\ \frac{2A - ha}{h} &= \frac{hb}{h} \end{aligned}$$