Additional examples
:

14) $r = 8 \text{ ft} \quad S = 208\pi \text{ ft}^2 \quad h = ?$

$$S = 2\pi r^2 + 2\pi rh$$
$$(208\pi) = 2\pi(8)^2 + 2\pi(8)h$$
$$208\pi = 128\pi + 16\pi h$$
$$208\pi - 128\pi = 16\pi h$$
$$80\pi = 16\pi h$$
$$\frac{80\pi}{16\pi} = h$$
$$h = \frac{10}{2} = 5 \text{ ft}$$

20) $A = \frac{1}{2}bh$ for b

$$LCD = 2$$
$$A = \frac{1}{2}bh$$
$$\left(\frac{2}{1}\right)\left(\frac{A}{1}\right) = \left(\frac{bh}{2}\right)\left(\frac{2}{1}\right)$$
$$2A = bh$$
$$\frac{2A}{h} = b$$

22) $I = prt$ for r

$$I = prt$$
$$\frac{I}{pt} = \frac{prt}{pt}$$
$$\frac{I}{pt} = r$$

24) $PV = nRT$ for R

$$PV = nRT$$
$$\frac{PV}{nT} = \frac{nRT}{nT}$$
$$\frac{PV}{nT} = R$$

26) $A = P + Prt$ for t

$$A = P + Prt$$
$$A - P = Prt$$
$$\frac{A-P}{Pr} = \frac{Prt}{Pr}$$
$$\frac{A-P}{Pr} = t$$

28) $F = \frac{9}{5}C + 32$ for C

$$F = \frac{9}{5}C + 32$$
$$F - 32 = \frac{9}{5}C$$
$$\left(\frac{5}{9}\right)\left(\frac{F-32}{1}\right) = \left(\frac{9C}{5}\right)\left(\frac{5}{9}\right)$$
$$\frac{5}{9}(F-32) = C$$

30) $h = vt - 16t^2$ for v

$$h = vt - 16t^2$$
$$h + 16t^2 = vt$$
$$\frac{h+16t^2}{t} = \frac{vt}{t}$$
$$\frac{h+16t^2}{t} = v$$

32) $A = a + (n-1)d$ for n

$$A = a + (n-1)d$$
$$A - a = (n-1)d$$
$$\frac{A-a}{d} = \frac{(n-1)d}{d}$$
$$\frac{A-a}{d} = n - 1$$
$$\frac{A-a}{d} + 1 = n$$

34) $2x-3y=6$ for y

$$2x-3y=6$$
$$2x=3y+6$$
$$2x-6=3y$$
$$\frac{2x-6}{3}=\frac{3y}{3}$$
$$\frac{2x-6}{3}=y$$
$$\frac{2}{3}x-2=y$$

36) $-2x-7y=14$ for y

$$-2x-7y=14$$
$$-2x=7y+14$$
$$-2x-14=7y$$
$$\frac{-2x-14}{7}=\frac{7y}{7}$$
$$\frac{-2x-14}{7}=y$$
$$\frac{-2}{7}x-2=y$$

38) $7x-2y-6=0$ for y

$$7x-2y-6=0$$
$$7x-6=2y$$
$$\frac{7x-6}{2}=\frac{2y}{2}$$
$$\frac{7x-6}{2}=y$$
$$\frac{7}{2}x-3=y$$

40) $ax-5=cx-2$ for x

$$ax-5=cx-2$$
$$ax-cx=5-2$$
$$x(a-c)=3$$
$$\frac{x(a-c)}{(a-c)}=\frac{3}{(a-c)}$$
$$x=\frac{3}{(a-c)}$$

42) $A=P+Prt$ for P

$$A=P+Prt$$
$$A=P(1+rt)$$
$$\frac{A}{(1+rt)}=\frac{P(1+rt)}{(1+rt)}$$
$$\frac{A}{1+rt}=P$$

44) $-3x+4y=12$ for y

$$-3x+4y=12$$
$$4y=3x+12$$
$$\frac{4y}{4}=\frac{3x+12}{4}$$
$$y=\frac{3x+12}{4}$$
$$y=\frac{3}{4}x+3$$

46) $by-9=dy+3$ for y

$$by-9=dy+3$$
$$by-dy=9+3$$
$$y(b-d)=12$$
$$\frac{y(b-d)}{(b-d)}=\frac{12}{(b-d)}$$
$$y=\frac{12}{(b-d)}$$

48) $\frac{x}{7}+\frac{y}{9}=1$

$$LCD=(7)(9)=63$$
$$\frac{x}{7}+\frac{y}{9}=1$$
$$\left(\frac{63}{1}\right)\left(\frac{x}{7}+\frac{y}{9}\right)=\left(\frac{1}{1}\right)\left(\frac{63}{1}\right)$$
$$9x+7y=63$$
$$7y=63-9x$$
$$\frac{7y}{7}=\frac{63-9x}{7}$$
$$y=\frac{63-9x}{7}=9-\frac{9}{7}x$$

50) $\frac{x}{16}+\frac{y}{-2}=1$

method 1:

$$LCD=-16$$

$$\frac{x}{16}+\frac{y}{-2}=1$$

$$\left(\frac{-16}{1}\right)\left(\frac{x}{16}+\frac{y}{-2}\right)=\left(\frac{1}{1}\right)\left(\frac{-16}{1}\right)$$

$$-x+8y=-16$$

$$8y=x-16$$

$$\frac{8y}{8}=\frac{x-16}{8}$$

$$y=\frac{x-16}{8}=\frac{1}{8}x-2$$

method 2:

$$LCD=16$$

$$\frac{x}{16}+\frac{y}{-2}=1$$

$$\frac{x}{16}-\frac{y}{2}=1$$

$$\left(\frac{16}{1}\right)\left(\frac{x}{16}-\frac{y}{2}\right)=\left(\frac{1}{1}\right)\left(\frac{16}{1}\right)$$

$$x-8y=16$$

$$x-16=8y$$

$$\frac{x-16}{8}=\frac{8y}{8}$$

$$\frac{x-16}{8}=y$$

$$\frac{1}{8}x-2=y$$

52) What number is 11% of 67?

$$x=(11\%)(67)$$

$$x=(0.11)(67)$$

$$x=7.37$$

54) What percent of 50 is 5:

$$x(50)=5$$

$$50x=5$$

$$x=\frac{5}{50}=\frac{1}{10}=0.1=10\%$$

56) 8 is 2% of what number?

$$"LCD"=100$$

$$8=(2\%)x$$

$$8=0.02x$$

$$(100)(8)=(0.02x)(100)$$

$$800=2x$$

$$400=x$$

for the sequences, the author describes that it starts from 1 not 0, so the answer like the ones from the back of the text are grouped in a box.

58) $a_n=4n-1$

$$a_0=4(0)-1=-1$$

$$\boxed{\begin{aligned} a_1&=4(1)-1=3\\ a_2&=4(2)-1=7\\ a_3&=4(3)-1=11\\ a_4&=4(4)-1=15\\ a_5&=4(5)-1=19 \end{aligned}}$$

60) $a_n=n^3+1$

$$a_0=(0)^3+1=1$$

$$\boxed{\begin{aligned} a_1&=(1)^3+1=2\\ a_2&=(2)^3+1=9\\ a_3&=(3)^3+1=28\\ a_4&=(4)^3+1=65\\ a_5&=(5)^3+1=126 \end{aligned}}$$

62) $a_n = \dfrac{n}{n+2}$

$$a_0 = \frac{(0)}{(0)+2} = 0$$

$$\boxed{\begin{aligned} a_1 &= \frac{(1)}{(1)+2} = \frac{1}{3} \\ a_2 &= \frac{(2)}{(2)+2} = \frac{2}{4} = \frac{1}{2} \\ a_3 &= \frac{(3)}{(3)+2} = \frac{3}{5} \\ a_4 &= \frac{(4)}{(4)+2} = \frac{4}{6} = \frac{2}{3} \\ a_5 &= \frac{(5)}{(5)+2} = \frac{5}{7} \end{aligned}}$$

64) $a_n = \dfrac{1}{n^3}$

$$a_0 = \frac{1}{(0)^3} = \text{undefined}$$

$$\boxed{\begin{aligned} a_1 &= \frac{1}{(1)^3} = 1 \\ a_2 &= \frac{1}{(2)^3} = \frac{1}{8} \\ a_3 &= \frac{1}{(3)^3} = \frac{1}{27} \\ a_4 &= \frac{1}{(4)^3} = \frac{1}{64} \\ a_5 &= \frac{1}{(5)^3} = \frac{1}{125} \end{aligned}}$$

66) $a_n = 3^n$

$$a_0 = 3^{(0)} = 1$$

$$\boxed{\begin{aligned} a_1 &= 3^{(1)} = 3 \\ a_2 &= 3^{(2)} = 9 \\ a_3 &= 3^{(3)} = 37 \\ a_4 &= 3^{(4)} = 81 \\ a_5 &= 3^{(5)} = 243 \end{aligned}}$$

68) $a_n = 1 - \dfrac{1}{n}$

method 1:

$$a_0 = 1 - \frac{1}{(0)} = \text{undefined}$$

$$\boxed{\begin{aligned} a_1 &= 1 - \frac{1}{(1)} = 0 \\ a_2 &= 1 - \frac{1}{(2)} = \frac{2}{2} - \frac{1}{2} = \frac{1}{2} \\ a_3 &= 1 - \frac{1}{(3)} = \frac{3}{3} - \frac{1}{3} = \frac{2}{3} \\ a_4 &= 1 - \frac{1}{(4)} = \frac{4}{4} - \frac{1}{4} = \frac{3}{4} \\ a_5 &= 1 - \frac{1}{(5)} = \frac{5}{5} - \frac{1}{5} = \frac{4}{5} \end{aligned}}$$

method 2:

$$a_n = 1 - \frac{1}{n} = \frac{n}{n} - \frac{1}{n} = \frac{n-1}{n}$$

method 1:

$$a_0 = \frac{(0)-1}{(0)} = \text{undefined}$$

$$\boxed{\begin{aligned} a_1 &= \frac{(1)-1}{(1)} = \frac{0}{1} = 0 \\ a_2 &= \frac{(2)-1}{(2)} = \frac{1}{2} \\ a_3 &= \frac{(3)-1}{(3)} = \frac{2}{3} \\ a_4 &= \frac{(4)-1}{(4)} = \frac{3}{4} \\ a_5 &= \frac{(4)-1}{(4)} = \frac{4}{5} \end{aligned}}$$