THINKING...
(PLEASE BE PATIENT)

1) **A Study** Similar to test question

The population of fish in a local pond were 125 000 in May 2000. The population decreased by 43% due to a nearby oil leak. What is the new population?

loss of fish   43% of 125 000

$= 0.43 \times 125000$

≈ 53750

New Pop $= 12500 - 53750$

$= 71250$

The new population of fish is 71250.

Sheet · Extra Practice 2

1. 275%
✓ 2.75

b) 156%
1.56

c) 320%
✓ 3.20

d) 0.25%
0.0025

e) 0.5%
0.005

f) 0.58%
0.0058

2. a) $\dfrac{6}{5} = \dfrac{120}{100}$

126%

✓deci
1.2
↓ ×100
120%

b) $\dfrac{45}{40} = 1.125$ dec

112.5%

c) $\dfrac{15}{3} = \dfrac{5}{1} = \dfrac{500}{100}$

500%

d) $\dfrac{9}{6}$ $\dfrac{3}{2} = \dfrac{150}{100}$

15%

e) $\dfrac{60}{25} = \dfrac{240}{100}$

240%

f) $\dfrac{9}{2} = \dfrac{450}{100}$

450%

3a) 400% of 240

4 × 240

960

40% of 240

0.4 × 240

96

4% of 240

0.04 × 240

9.6

0.4% of 240

0.004 × 240

0.96

b) The numbers stay the same, but the position of the decimal moves.

c) 4000% of 240

9600

0.04% of 240

0.096

4. a) 120% of Thursday's attendance

120% of 160

1.2 × 160

192 people attended Friday night

b) Sat → 75% of Friday's attendance

75% of 192

0.75 × 192

144 people attended Sat.

c) 3 nights   160 + 192 + 144

496 people attended in the 3 night.

5. a) Selling   124% of purchased price
     Price
                124% of 450 000
                1.24 x 450 000
                558 000 is selling
                                price

b) 124% of 450 000
   100% of 450 000 + 25% of 440 000
       450 000 + 110 000
            560 000

c) Increase over 3 years
        558 000 - 450 000
            108 000

6. 1. 2% spelled incorrectly

   Spelled correctly
        100 - 1.2 = 98.8% spelled correct

     98.8% of 500
      0.988 x 500
          494 words spelled correctly

b) ≈ 1% spelled wrong
     1% of 500
     (500 ÷ .100) = 5 spelled wrong

     500 - 5 = 495 correct.

Sheet – Extra Practice 3

1a) 30% of n = 12

$$0.3n = 12$$

$$\frac{0.3h}{0.3} = \frac{12}{0.3}$$

$$h = 40$$

30% of n = 12

$$10\% \text{ of } n = \frac{12 \div 3}{4}$$

$$100\% \text{ of } h = 4 \times 10$$
$$= 40$$

b) 2% of n = 9

$$0.02n = 9$$

$$\frac{0.02h}{0.02} = \frac{9}{0.02}$$

$$n = 450$$

$$1\% \text{ of } h = 9 \div 2$$
$$4.5$$

$$100\% \text{ of } h = 4.5 \times 100$$
$$= 450$$

c) 150% of n = 60

$$1.5h = 60$$

$$\frac{1.5n}{1.5} = \frac{60}{1.5}$$

$$n = 40$$

$$50\% \text{ of } n = \frac{60 \div 3}{20}$$

$$100\% \text{ of } n = 20 \times 2$$
$$= 40$$

d) 55% of h = 11

$$0.55h = 11$$

$$\frac{0.55h}{0.55} = \frac{11}{0.55}$$

$$h = 20$$

$$5\% \text{ of } n = \frac{11 \div 11}{=1}$$

$$100\% \text{ of } h = 1 \times 20$$
$$= 20$$

2.a) 8% of ___ is 72

$0.08n = 72$

$$\frac{0.08n}{0.08} = \frac{72}{0.08}$$

$n = 900$

b) 0.6% of ___ = 18

$0.006n = 18$

$$\frac{0.006n}{0.006} = \frac{18}{0.006}$$

$n = 3000$

c) 120% of ___ is 24

$1.2n = 24$

$$\frac{1.2n}{1.2} = \frac{24}{1.2}$$

$n = 20$

$10\% = 2$
$100\% = 20$

d) 32% of ___ is 64

$0.32 \times n = 64$

$$\frac{0.32n}{0.32} = \frac{64}{0.32}$$

$n = 200$

$1\% = 2$
$100\% = 200$

3a) Amt Inc = 99.9 - 93.9
$$= 6$$

% Inc = $\dfrac{Amt.Inc}{Orig\ Amt}$ × 100%

$$= \dfrac{6}{93.9} × 100\%$$

$$= 0.064 × 100\%$$
$$6.4\%$$

b) Amt Inc = 36000 - 32 000
$$= 4 000$$

% Inc = $\dfrac{Amt\ Inc}{Orig\ Amt}$ × 100%

$$= \dfrac{4000}{32000} × 100\%$$

$$= 0.125 × 100\%$$
$$12.5\%$$

c) Amt Inc = 2.49 - 1.99
$$= 0.50$$

% Inc = $\dfrac{Amt\ Inc}{Orig\ Amt}$ × 100%

$$= \dfrac{0.50}{1.99} × 100\%$$

$$= 0.251 × 100\%$$
$$25.1\%$$

4. Amt Dec $= 6800 - 5200$

$\quad\quad\quad = 1660$

% Dec $= \dfrac{\text{Amt Dec}}{\text{Orig Amt}} \times 100\%$

$\quad\quad = \dfrac{1600}{6800} \times 100\%$

$\quad\quad = 0.235 \times 100\%$

$\quad\quad\quad 23.5\%$

b) Amt Dec $= 840 - 672$

$\quad\quad\quad = 168$

% Dec $= \dfrac{\text{Amt Dec}}{\text{Orig Amt}} \times 100\%$

$\quad\quad = \dfrac{168}{840} \times 100\%$

$\quad\quad = 0.2 \times 100\%$

$\quad\quad\quad 20\%$

c) Amt Dec $= 1500 - 1200$

$\quad\quad\quad = 300$

% Dec $= \dfrac{\text{Amt Dec}}{\text{Orig Amt}} \times 100\%$

$\quad\quad = \dfrac{300}{1500} \times 100\%$

$\quad\quad = 0.2 \times 100\%$

$\quad\quad\quad 20\%$

5. $\underline{4\%}$ of $\underline{\text{all labels}}$ are $\underline{\text{defective}}$

372 are defective.

$\underline{4\%}$ of $\underline{\quad n \quad}$ is $\underline{372}$

$$0.04\,n = 372$$

$$\frac{0.04\,n}{0.04} = \frac{372}{0.04}$$

$$n = 9300 \text{ in total}$$

Not Defective

$$9300 - 372 = 8928$$

6. $\underline{75\%}$ of $\underline{\text{kicks}}$ were $\underline{\text{successful}}$

75% of $\underline{\quad n \quad}$ is $\underline{51}$

$$0.75\,n = 51$$

$$\frac{0.75\,n}{0.75} = \frac{51}{0.75}$$

$$n = 68 \text{ kicks in total}$$

7. $\underline{15\%}$ of $\underline{\text{bill}}$ is $\underline{\text{tip}}$

15% of $\underline{\quad n \quad} = \underline{10.25}$

$$0.15\,n = 10.25$$

$$\frac{0.15\,n}{0.15} = \frac{10.25}{0.15}$$

$$n = 68.33 \text{ is the total bill.}$$

8. 2005 —→ 250 cards

2006 —→ increase of 12%

Inc —→ 12% of 250

0.12 × 250

30 increase

2006 —→ 250 + 30

280

2007 —→ increase of 15%

Inc —→ 15% of 280

0.15 × 280

42

2007 —→ 280 + 42

322 cards at the end of 2007

b) This NOT the same as taking 27% of 250, since the second increase involved more cards

http://www.taxtips.ca/provincial_sales_tax.htm

Sales Tax and Total Cost

Sales tax is money that you pay to the government on almost everything that you buy. In NB, we pay harmonized sales tax(HST) which is 15 %

Provincial Sales tax rate

BC	7% PST + GST
AB	0% PST + GST
SK	5% PST + GST
MN	7% PST + GST
ON	8% PST + GST
PQ	7.5% ** + GST*
NL	15% HST
NB	15% HST
NS	15% HST
PE	15% HST

We pay sales tax on the price of the item, so to calculate the amount of sales tax, we take 15% of the price. GST is 5%.

Example; A sweater sells for $45.
(a) find the amount of tax you have to pay.
(b) find the total cost of the sweater.

(a) Sales Tax = 15% of Price
change to decimal
= 0.15 X $45
= $6.75

(b) Total cost = Price of Item + Tax
= 45 + 6.75
= $51.75

2. **Find the amount of tax and total cost of a book that cost $15.**

(a) Tax = 15% of Price

$= 0.15 \times 15$

$= \$2.25$

(b) Total cost = Price + tax

$= 15 + 2.25$

$= \$17.25$

3. **Find the total cost of a stereo that sells for $229.99.**

Tax $= 15\%$ of Price

$= 0.15 \times \$229.99$

$= \$34.4985$

$= \$34.50$

Total Price = Cost + Tax

$= 229.99 + 34.50$

$= \$264.49$

Class/Homework

Homework pg. 260 #4-9
(Use 15% HST for all questions)

4 b, c
5 a b
6 a b c

10.33 $6
    ↓
$ 10.34

5 or Bigger causes
neighbour
to go up

10.33 1 7 = 10.33
        ↑
less than five causes
neighbour to stay
the same