

Quiz first

The do Warm up on day 8 of booklet



WARM UP GRADE 8



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?

$$\text{Decrease} = 43\% \text{ of } 125\,000$$

↓
Change to decimal

$$= 0.43 \times 125\,000$$

$$= 53\,750$$

(Died due to pollution)

$$\text{New Pop} = 125\,000 - 53\,750$$

$$= 71\,250$$

The new population of fish is 71250.



WARM UP GRADE 8

Feb. ~~21~~, 2018
23



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?

$$\begin{aligned} \text{Death of fish} &= 43\% \text{ of } 125\,000 \\ &= 0.43 \times 125\,000 \\ &= 53\,750 \end{aligned}$$

$$\begin{aligned} \text{New Pop} &= \text{Old} - \text{Death} \\ &= 125\,000 - 53\,750 \\ &= 71\,250 \end{aligned}$$

Sheet · Extra Practiced

$$1. \ 275\% \\ 2.75$$

$$b) \ 156\% \\ 1.56$$

$$c) \ 320\% \\ 3.20$$

$$d) \ 0.25\% \\ 0.0025$$

$$e) \ 0.5\% \\ 0.005$$

$$f) \ 0.58\% \\ 0.0058$$

$$2. \ a) \ \frac{6}{5} = \frac{120}{100} = 1.2 \xrightarrow{\times 100} \\ 120\%$$

$$b) \ \frac{45}{40} = 1.125 \xrightarrow{\times 100} \\ 112.5\%$$

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

$$d) \ \frac{9}{6} \cdot \frac{3}{2} = \frac{150}{100} \\ 15\%$$

$$e) \ \frac{60}{25} = \frac{240}{100} \\ 240\%$$

$$f) \ \frac{9}{2} = \frac{450}{100} \\ 450\%$$

$$3a) 400\% \text{ of } 240$$

$$4 \times 240 \\ 960$$

$$40\% \text{ of } 240$$

$$0.4 \times 240 \\ 96$$

$$4\% \text{ of } 240$$

$$0.04 \times 240 \\ 9.6$$

$$0.4\% \text{ of } 240$$

$$0.004 \times 240 \\ 0.96$$

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

$$c) 4000\% \text{ of } 240 \\ 9600$$

$$0.04\% \text{ of } 240 \\ 0.096$$

4. a) 120% of Thursday's attendance

$$120\% \text{ of } 160$$

$$1.2 \times 160$$

192 people attended Friday night

b) Sat \rightarrow 75% of Friday's attendance

$$75\% \text{ of } 192$$

$$0.75 \times 192$$

144 people attended Sat.

c) 3 nights

$$\underline{160} + 192 + \underline{144}$$

496 people attended in the 3 nights.

5. a) Selling Price 124% of purchased price
 124% of 450 000
 $1.24 \times 450\,000$
 558 000 is selling price

b) 124% of 450 000
 100% of 450 000 + 25% of 450 000
 $450\,000 + 110\,000$
 560 000

c) Increase over 3 years
 $558\,000 - 450\,000$
 108 000

b. 1.2% spelled incorrectly
 Spelled correctly
 $100 - 1.2 = 98.8\%$ spelled correct
 98.8% of 500
 0.988×500
 494 words spelled correctly

b) $\approx 1\%$ spelled wrong
 1% of 500
 $(500 \div 100) = 5$ spelled wrong
 $500 - 5 = 495$ correct.

$$\begin{aligned} 1.2\% \text{ of } 500 &= \text{wrong} \\ \downarrow \\ 0.012 \times 500 &= \text{wrong} \\ \underbrace{\hspace{2cm}} & \\ 6 &= \text{wrong} \end{aligned}$$

$$\begin{aligned} \text{Right} &= 500 - 6 \\ &= 494 \end{aligned}$$

Sheet - Extra Practice 3

1a) 30% of $n = 12$

$$0.3n = 12$$

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

$$n = 40$$

$$30\% \text{ of } n = 12$$

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

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

b) 2% of $n = 9$

$$0.02n = 9$$

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

$$n = 450$$

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

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

c) 150% of $n = 60$

$$1.5n = 60$$

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

$$n = 40$$

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

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

d) 55% of $n = 11$

$$0.55n = 11$$

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

$$n = 20$$

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

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

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

$$0.32 \times n = 64$$

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

$$n = 200$$

$$1\% = 2$$

$$100\% = 200$$

$$\begin{aligned} 3a) \text{ Amt Inc} &= 99.9 - 93.9 \\ &= 6 \end{aligned}$$

$$\begin{aligned} \% \text{ Inc} &= \frac{\text{Amt Inc}}{\text{Orig Amt}} \times 100\% \\ &= \frac{6}{93.9} \times 100\% \\ &= 0.064 \times 100\% \\ &= 6.4\% \end{aligned}$$

$$\begin{aligned} b) \text{ Amt Inc} &= 36000 - 32000 \\ &= 4000 \end{aligned}$$

$$\begin{aligned} \% \text{ Inc} &= \frac{\text{Amt Inc}}{\text{Orig Amt}} \times 100\% \\ &= \frac{4000}{32000} \times 100\% \\ &= 0.125 \times 100\% \\ &= 12.5\% \end{aligned}$$

$$\begin{aligned} c) \text{ Amt Inc} &= 2.49 - 1.99 \\ &= 0.50 \end{aligned}$$

$$\begin{aligned} \% \text{ Inc} &= \frac{\text{Amt Inc}}{\text{Orig Amt}} \times 100\% \\ &= \frac{0.50}{1.99} \times 100\% \\ &= 0.251 \times 100\% \\ &= 25.1\% \end{aligned}$$

$$4. \text{ Amt Dec} = 6800 - 5200 \\ = 1600$$

$$\% \text{ Dec} = \frac{\text{Amt Dec}}{\text{Orig Amt}} \times 100\% \\ = \frac{1600}{6800} \times 100\% \\ = 0.235 \times 100\% \\ 23.5\%$$

$$b) \text{ Amt Dec} = 840 - 672 \\ = 168$$

$$\% \text{ Dec} = \frac{\text{Amt Dec}}{\text{Orig Amt}} \times 100\% \\ = \frac{168}{840} \times 100\% \\ = 0.2 \times 100\% \\ 20\%$$

$$c) \text{ Amt Dec} = 1500 - 1200 \\ = 300$$

$$\% \text{ Dec} = \frac{\text{Amt Dec}}{\text{Orig Amt}} \times 100\% \\ = \frac{300}{1500} \times 100\% \\ = 0.2 \times 100\% \\ 20\%$$

5. 4% of all labels are defective

372 are defective.

4% of n is 372

$$0.04n = 372$$

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

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

Not Defective

$$9300 - 372 = 8928$$

6. 75% of kicks were successful

75% of n is 51

$$0.75n = 51$$

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

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

7. 15% of bill is tip

15% of n = 10.25

$$0.15n = 10.25$$

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

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

8. 2005 \rightarrow 250 cards

2006 \rightarrow increase of 12%

Inc \rightarrow 12% of 250

$$0.12 \times 250$$

30 increase

2006 \rightarrow 250 + 30
280

2007 \rightarrow increase of 15%

Inc \rightarrow 15% of 280

$$0.15 \times 280$$

42

2007 \rightarrow 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/provSalesTaxandTotalCost>



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 +5% GST**
- AB 0% PST + 5%GST**
- SK 6% PST + 5%GST**
- MN 7% PST + 5%GST**
- ON 13% HST**
- QC 9.975% + 5% GST***
- NL 15% HST**
- NB 15% HST**
- NS 15% HST**
- PE 15% HST**

Prov/ Terr	2021 Rate		Provincial Web Sites
	GST/HST	PST	
AB	5% GST	n/a	
BC	5% GST	7%	BC Consumer Taxes TaxTips.ca PST in BC
MB	5% GST	7%	Manitoba Retail Sales Tax
NB	15% HST	n/a	New Brunswick HST
NL	15% HST	n/a	Newfoundland & Labrador HST
NS	15% HST	n/a	Nova Scotia HST
NT	5% GST	n/a	
NU	5% GST	n/a	
ON	13% HST	n/a ⁽¹⁾	Ontario Retail Sales Tax TaxTips.ca Ontario HST Ontario HST
PE	15% HST	n/a	Prince Edward Island HST
QC	5% GST	9.975%	Quebec Consumption Taxes - Businesses Quebec Consumption Taxes - Individuals Basic Rules for GST and QST - rates
SK	5% GST	6%	Saskatchewan Provincial Sales Tax
	5% GST	n/a	

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

NB Tax \Rightarrow $\cdot 15\%$

Example; A sweater sells for \$45 in New Brunswick.

(a) find the amount of tax you have to pay.

(b) find the total cost of the sweater.

(a) Sales Tax = 15% of the price

$$= 0.15 \times 45$$

$$= \$6.75$$

(b) Total cost = Price of Item + Tax

$$= \$45 + \$6.75$$

$$= \$51.75$$

NB Tax \rightarrow 15%.

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

(a) Tax = 15% of Cost

$$= 0.15 \times 15$$

$$= \$2.25$$

(b) Total cost =

$$\begin{aligned} & \text{Price} + \text{tax} \\ & = \$15 + \$2.25 \\ & = \$17.25 \end{aligned}$$

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

Class Homework

Homework pg. 260 #4-9

(Use 15% HST for all questions)

4 a b (only tax)

5 a b (only tax)

7 a b i) Calculator
↓ ↓ ii) Skake
tax Total price

9 (No tax → 28% increase)
then add tax after 3 years