Warm Up Grade 8
Feb. 12, 2018

Use Mental Math (show work)

30% of 250

10% of 250 = 25 ⎫×3
⎧×3
30% of 250 = 75

24% of 3600

10% of 3600 = 360 ⎫×2
  ×2
──────────────
20% of 3600 = 720
÷5   ÷5
──────────────
4% of 3600: 144

1% of 3600 = 36 ×4
×4
4% of 3600 = 144

24% of 3600 = 720
            +144 (20%)
            ──── (× 4%)
            ⟨864⟩

Use a calculator for the following

21.5% of 1800

↓ convert % to decimal first (÷ % by 100 to get deci)
        then
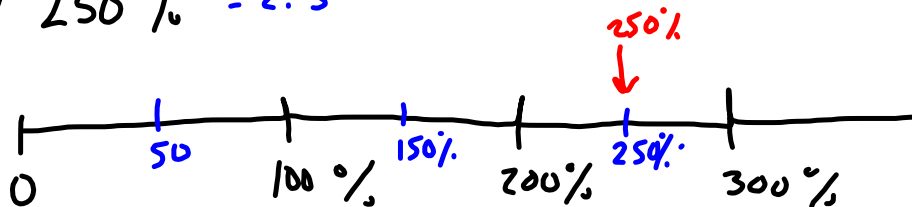   multiply

0.215 X 1800
    = 387

Pg 24/6

5) a) 120% = 1.2

120%

|———————|———|—|———|———|
0   50%   100% 150% 200%

b) 250% = 2.5

250%

|———|———|———|———|———|———|———
0   50   100% 150% 200% 250% 300%

c) 475 = 4.75

d) 0.3 % = 0.003

0.003%

|—|———————|———————————|
  1%   50%   100%

e) 0.53 %   0.0053

0.0053%

|—|—————————|————————————|
  1%   50%   100%
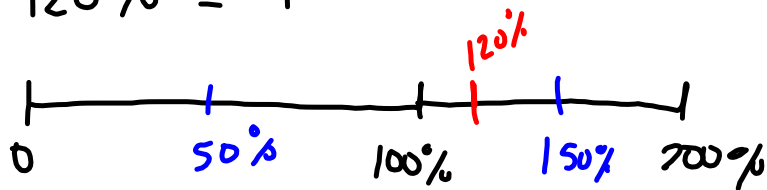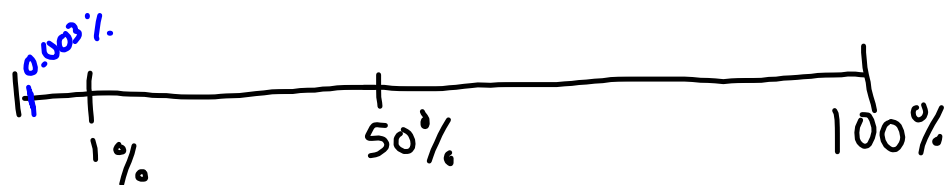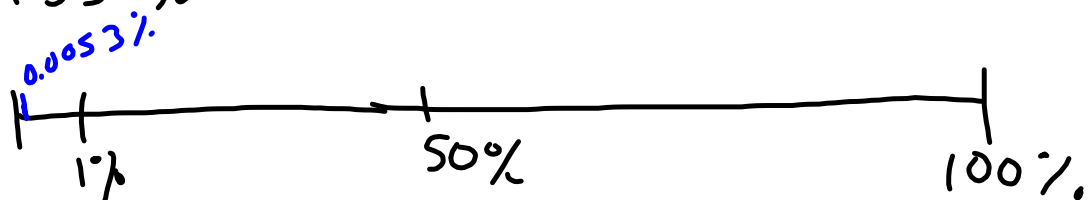
f) 0.75 % = 0.0075

#5,6,10, 11

	×100 → Percent	Fraction

6) a) 1.7   170% $\frac{170}{100} = \frac{17}{10} = 1\frac{7}{10}$

b) 3.3   330% $\frac{330}{100} = \frac{33}{10} = 3\frac{3}{10}$

c) 0.003   0.3% $\frac{3}{1000} =$

d) 0.0056   0.56% $\frac{56}{10000} = \frac{28}{5000} = \frac{14}{2500} = \frac{7}{1250}$

10) i) $\frac{1}{3} = 0.\overline{33} = 33.\overline{3}\%$

ii) $\frac{2}{3} = 0.\overline{6} = 66.\overline{6}\%$

iii) $\frac{3}{3} = 1 = 100\%$

iv) $\frac{4}{3} = 1.\overline{3} = 133.3\%$

v) $\frac{5}{3} = 1.\overline{6} = 166.\overline{6}\%$

vi) $\frac{6}{3} = 2 = 200\%$

b) As the numerator increases by 1 the percent increases by 33.$\overline{3}$%

c) i) $\frac{7}{3} = 2\frac{1}{3} = 2.\overline{3} = 233.\overline{3}\%$

ii) $\frac{8}{3} = 2\frac{2}{3} = 2.\overline{6} = 266.\overline{6}\%$

iii) $\frac{9}{3} = 3 = 300\%$

iv) $\frac{10}{3} = 3\frac{1}{3} = 3.\overline{3} = 333.\overline{3}\%$

v) $\frac{11}{3} = 3\frac{2}{3} = 3.\overline{6} = 366.6\%$

vi) $\frac{12}{3} = 4 = 400\%$

1) a i) 200 % of 360

$\times 2 \Big($ 100% of 360 = 360 $\Big) \times 2$

200% of 360 = 720

ii) 20 % of 360

$\times 2 \Big($ 10% of 360 = 36 $\Big) \times 2$

20% of 360 = 72

iii) 2 % of 360 =

$\times 2 \Big($ 1% of 360 = 3.6 $\Big) \times 2$

2% of 360 = 7.2

iv) 0.2 % of 360

$\times 2 \Big($ 1% of 360 = 3.6 $\Big) \times 2$

2% of 360 = 7.2

$\div 10 \Big($ $\Big) \div 10$

0.2% of 360 = 0.72

b) The digit moves one place to the right each time you decrease your percent by a factor of 10

c) 2000 % of 360 = 720

$\times 10 \Big($ 100% of 360 = 360 $\Big) \times 10$

$\times 2 \Big($ 1000% of 360 = 3600 $\Big) \times 2$

2000% of 360 = 7200

i.) 0.02 % of 360

$\div 10 \Big($ 2% of 360 = 7.2 from above $\Big) \div 100$

0.02% of 360 = 0.072

Percents greater than 100% are used by store owners to calculate the prices of items they sell.

A store has to make a profit; that is, to sell goods for more than the goods cost to buy.

A store manager buys merchandise from a supplier. The price the manager pays is called the *cost* price. The manager *marks up* the cost price to arrive at the *selling price* for the customer. The markup is the *profit*.

Cost price + Profit = Selling price

The cost price of a winter coat is $80.
The selling price of the coat is 230% of the cost price.
What is the selling price of the coat?
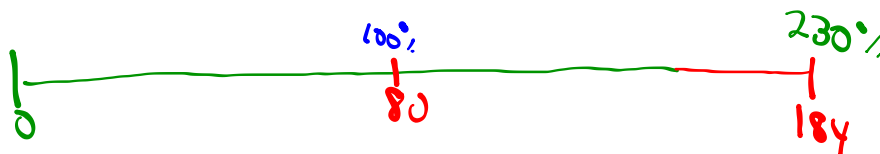Illustrate the answer with a number line.

Cost price = $80

hint change % to decimal

Can use calculator but
MUST show work

Cost + Profit = Selling
Rearrange
Profit = Selling - Cost

Selling = 230% of Cost
= 230% of $80
↓ write as decimal
= 2.3 × $80
Selling Price = 184

Profit = Sell - Cost
= 184 - 80
Profit = 104

In 2004, the population of First Nations people living on reserves in Alberta was 58 782.
About 0.28% of these people belonged to the Mikisew Cree band.
a) About how many people belonged to the Mikisew Cree band?
b) Estimate to check the answer is reasonable.

b) 1% of 58782 ≈ 588
$\div 4$ $\div 4$
0.25%   58762 = 147

a)

0.28% of these People

Mikisew Cree = 0.28% of First Nations People do Alberta

M.C. = 0.28% of 58 782

↓ change to a decimal
by ÷ by 100

= 0.0028 × 58782

= 164.6

This shape represents 100%. Draw a shape that represents 250%.

3 cm

5 cm

4 cm

250% of 3 cm
↓
2.5 × 3 cm

7.5 cm →

250% of 5 cm
2.5 × 5 cm

12.5 cm

250 × 4
2.50 × 4

10.0 cm
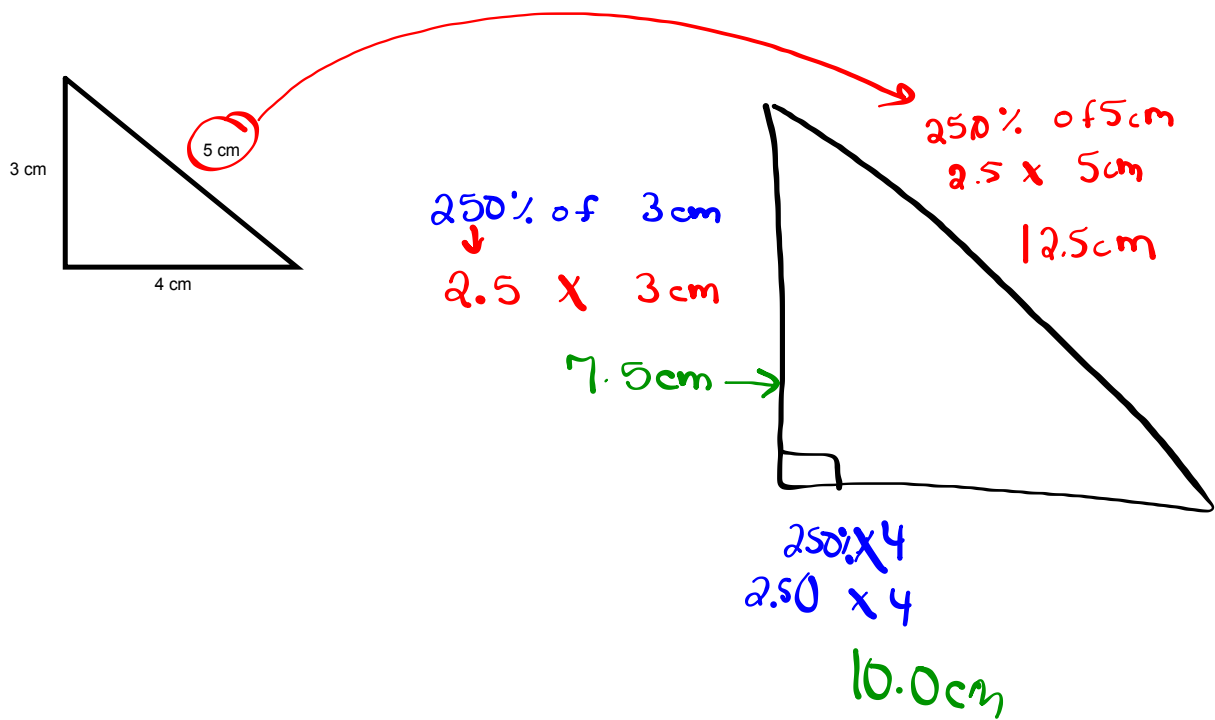
At the movie theatre, 1550 people attended in one week.
The next week the attendance increased by 125%.
a) How many people went to the movie theatre the second week?
b) Estimate to check your answer is reasonable.

a) Pop of 2nd week = 125% of 1st week

$$= 125\% \text{ of } 1550$$

↓ change to decimal (÷ by 100)

$$= 1.25 \times 1550$$

$$= 1937.5$$

$$\approx 1938$$

About 1938 people attended in the 2nd week.

b) Round pop to 1600

$$100\% \text{ of } 1600 = 1600$$
$$25\% \text{ of } 1600 \doteq 400$$

$$125\% \text{ of } 1600 \approx 2000 \qquad \text{Overestimate}$$

Class/Homework

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Show all work