Warm Up Grade 8

No Calculators

The grade 8 class put on a play on for the school on Wednesday and Thursday. If 80 people showed up for the play on Wednesday, how many showed up on Thursday if the attendance was 120% of Wednesday's attendance?

Thur = 120% of Wed

↓ 1.20 x ↓ 80

cal → = 96

96 people showed up on Thursday.

Mental Math

100% of 80 = 80

10% of 80 = 8 (x2, x2)

20% of 80 = 16

+

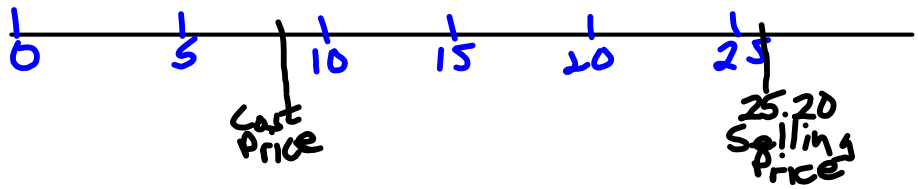
120% of 80 = 96

Pg 246

6.

	Percent	Decimal	
a) 1.7	170%	$\frac{170}{100}$	$\frac{17}{10}$
b) 3.3	330%	$\frac{330}{100}$	$\frac{33}{10}$
c) 0.003	0.3%	$\frac{0.3}{100}$	$\frac{3}{1000}$
d) 0.0056	0.56%	$\frac{0.56}{100}$	$\frac{56}{10000}$

7. 280% of 9
2.8 x 9
25.20 - selling price



8. Giving 110% means putting more than expected into something.
→ Doing what is expected and more

9. a) 2 examples > 100%
→ Everything correct on a test plus the bonus
→ The selling price of an item
selling price 250% of cost price

b) < 1%
→ an increase in the dollar 0.25%
→ Chance of winning a price if 1000 tickets are sold $\frac{1}{1000} = 0.001$ or 0.1%

10. (a) 1/3 = 0.333... or 33.3%

2/3 = 0.666... or 66.7%

3/3 = 1.00 or 100%

4/3 = 1.333... or 133.3%

5/3 = 1.666... or 166.7%

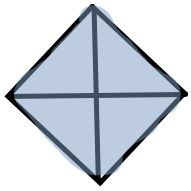
6/3 = 2 or 200%

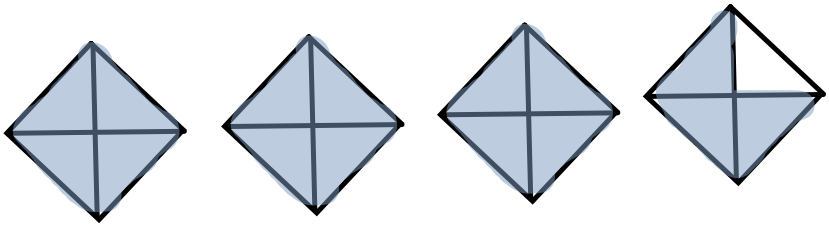
(b) Pattern

(c) 7/3 = 2.333... or 233.3%
8/3 = 2.666... or 266.7%
9/3 = 3 or 300%
10/3 = 3.333... or 333.3%
11/3 = 3.666... or 366.7%
12/3 = 4 or 400%

12. 0.8% of runners completed in 2 h 15 min
0.8% of 618
0.008 x 618
4.994 or 5 runners completed the run in the time

(b) Estimate
1% of 600
6
estimate is close

13 (a)  = 100%

375% 

14. (a) Juan

5 % of 2600

0.05 x 2600

130 New Population = 2600 + 130 = 2730

of new population

15% of 2730

0.15 x 2730

409.5 (or 410) Final Population = 2730 + 410 = 3140

(b) Jeremy

20 % of 2600

0.2 x 2600

520 Final Population = 2600 + 520 = 3120

(c) The answers are not the same. Who is Correct?

Juan used the correct method

$17\,000 \times 0.15$ save $

$\$2550$

$17\,000 - 2550$

$\$14\,450$

$+$ tax add tax

$\$16\,617.50$

No Tax

$\$17\,000$

15. 140 % of attendance on Friday
1.40 x 120
168 people attended on Saturday

(b) Estimate
100 % + 50%
120 + 60
180

16. (a) 0.75 % of 1888 population
0.75 % of 2000

Estimate 1 % of 2000
(2000 ÷ 100)
20

(b) 0.75% of 2000
0.0075 x 2000
15

(c) Decrease in Population 2000 - 15
1985

17 . Number of girls who signed up
195 % of boys
1.95 x 20
39 girls signed up

26 attended auditions
$\frac{26}{39} = 0.666...$
= 66.7 % of the signed up attended

Percent Problems

There are 3 types of percent problems:

- finding the percent ex. 15 out of 30

$$\frac{15}{30} = 0.5 = 50\%$$

Frac → Dec → %

- finding the percent of a number

ex. 45% of 360 change to a decimal and multiply

0.45 x 360 = 162

- finding the number from a percent

ex. 60% of a number is 72

- third type: Must rearrange

60% of a number is 72 Let n = the number

0.6 x n = 72

$$\frac{0.6\,n}{0.6} = \frac{72}{0.6}$$

n = 120

or

60% of a number is 72 ÷6

10% of same # is 12 ÷6

100% of the same # is 120 x10

x 10

Examples:

1. Grady is 13 years old and 155 cm tall. His height at this age is about 90% of his final adult height. How tall would you expect Grady's adult height to be?

90 % of adult height is 155 cm

how do you find h?

$0.90 \times h = 155$

$\frac{0.90 \times h}{0.90} = \frac{155}{0.90}$

$h = 172.$ cm

or

or you can say

90% is 155

÷ 9 ÷ 9

1% is 1.722

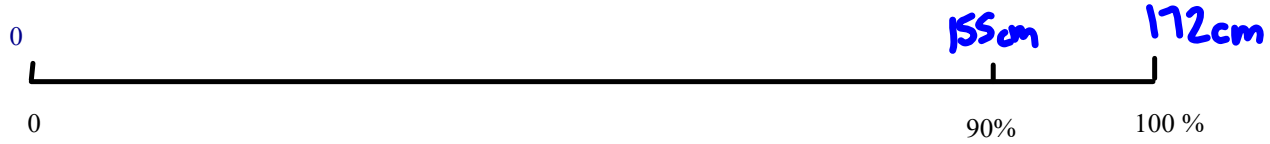
x 100 x 100

100% is 172.2

so 100% = 1.722 x 100 cm

Showing a number line:

It doesn't matter which method you prefer to use, both will give the same answer.



2. (a) 70% of a number is 63

$0.7 \times n = 63$

$\frac{0.7 \times n}{0.7} = \frac{63}{0.7}$

$n = 90$

(b) 175 % of a number is 105 (Will the number be more or less than 105?)

$1.75 \times n = 105$

$\frac{1.75 n}{1.75} = \frac{105}{1.75}$

$n = 60$

3. (a) A length of 30 cm increased by 40%. What is the new length?
(b) A mass of 50 g decreased by 17%. What is the new mass?

(a) Amount of increase = 40% of 30
= 0.4 x 30 mentally
= 12

New length = 30 + 12
= 42 cm

(b) Amount decrease = 17% of 50g
= 0.17 x 50g
= 8.5g

New Mass = 50g - 8.5g
= 41.5g

all "n" questions

Homework pg. 252 # 3,4, 7

4a) 25% of n = 5

$\frac{0.25 \times n}{0.25} = \frac{5}{0.25}$

n = 20 STOP

↓a) 15% is 125g
Same as
15% of n is 125g