MPM 1DI: *Working With Percent*

1. Write as percents:
    a) 0.65   b) 0.83   c) 0.02   d) 0.6   e) 0.08   f) 0.752   g) 0.005

    h) 1.34   i) $\dfrac{1}{10}$ j) $\dfrac{3}{5}$ k) $\dfrac{11}{25}$ l) $\dfrac{3}{8}$ m) $\dfrac{14}{10}$ n) $\dfrac{23}{9}$

2. Write the percents as decimals:
    a) 19%   b) 35%   c) 37.5%   d) 1%   e) 0.8%   f) 0.55%   g) 4.5%

    h) 120%   i) 200%   j) $5\frac{3}{4}\%$ k) $8\frac{1}{2}\%$

3. Write each percent as a fraction in lowest terms:
    a) 30%   b) 24%   c) 2%   d) 5%   e) 0.5%   f) 120%   g) 101%

4. Complete the following table:

Percent	50%		120%		300%		
Fraction				$\frac{11}{10}$			$\frac{7}{10}$
Decimal		0.03				1.6	

5. Calculate the following:
    a) 40% of 80   b) 25% of 120
    c) 68% of 200   d) 8% of $75.00

6. Calculate the following:
    a) what percent of 150 is 75?   b) what percent of 300 is 81?
    c) what percent of 600 is 60?   d) what percent of 45 is 18?

7. Determine the number if:
    a) 50% of a number is 20   b) 25% of a number is 5
    c) 20% of a number is 30   d) 10% of a number is 70

8. When snowboarder Shaun White rode in the Olympic final, he finished third out of 8 competitors.
    a) What percent of the competitors finished behind him?
    b) What percent of the competitors finished ahead of him?
    c) Why do your answers to a) and b) not add to 100%?

9. On a written driver's test, you need to score 80% to pass. There are 60 questions on the test. How many questions must you answer correctly to pass?

10. In a student's council election, 80% of the students voted. If there are 1600 students in the school, how many voted?

11. Canadian teams won 7 of the first 15 women's world curling championships. What percent of the championships did they win?

12. There are about 600 000 words in the English language.
    a) People use about 5000 of them when talking. What percent of the words do they use?
    b) People use about 10 000 words when writing. What percent of words do they use?

13. A merchant can purchase a T-shirt for $18.90. The price charged to the customer includes a markup of 40%. What price does the customer pay for the T-shirt?

14. An IPod costs $129.99 less a 35% discount.
   a) How much is the discount?
   b) What is the sale price?
   c) What does the customer pay in total with HST?

15. A pair of basketball shoes sells for $99.95, plus taxes. What is the total cost of the shoes?

16. Two video games are on sale. One sells for $65.50 less 15%. The other sells for $72.50 less 20%. Which is the better buy, in terms of price?

17. A dealer bought a book for $20 and sold it for $30. What was the markup? The percent markup?

18. If a survey showed that 24 out of 60 people chose cycling as their favourite physical activity, what percent did not choose cycling?

19. One week, Carl sold $8000 worth of paintings. He earned $200 plus a commission of 5% of sales. What did he earn?

20. A box of cereal was enlarged to contain 540 g. The original box contained 400 g.
   a) What was the percent increase over the original box?
   b) What percent of the old size is the new size?

21. A magazine currently sells for $5.99.   Last year it sold for $4.50.
   a) What is the percent increase over last year's price?
   b) What percent of the old price is the new price?

ANSWERS

1. **a)** 65% **b)** 83% **c)** 2% **d)** 60% **e)** 8% **f)** 75.2% **g)** 0.5%
     h) 134% **i)** 10% **j)** 60% **k)** 44% **l)** 37.5% **m)** 140% **n)** 256%
2. **a)** 0.19 **b)** 0.35 **c)** 0.375 **d)** 0.01 **e)** 0.008 **f)** 0.0055 **g)** 0.045
     h) 1.2 **i)** 2 **j)** 0.0575 **k)** 0.085
3. **a)** $\dfrac{3}{10}$ **b)** $\dfrac{6}{25}$ **c)** $\dfrac{1}{50}$ **d)** $\dfrac{1}{20}$ **e)** $\dfrac{1}{200}$ **f)** $\dfrac{6}{5}$ **g)** $\dfrac{101}{100}$

4.

Percent	50%	3%	120%	110%	300%	160%	70%
Fraction	$\dfrac{1}{2}$	$\dfrac{3}{100}$	$\dfrac{6}{5}$	$\dfrac{11}{10}$	$\dfrac{3}{1}$	$\dfrac{8}{5}$	$\dfrac{7}{10}$
Decimal	0.5	0.03	1.2	1.1	3	1.6	0.7

5. **a)** 32 **b)** 30 **c)** 136 **d)** $6.00
6. **a)** 50% **b)** 27% **c)** 10% **d)** 40%
7. **a)** 40 **b)** 20 **c)** 150 **d)** 700
8. **a)** 62.5% **b)** 25% **c)** His position (3rd) was not included in the calculations
9. 48 questions
10. 1280 students voted
11. 46.7%
12. **a)** 0.8% **b)** 1.7%
13. $26.46
14. **a)** $45.50 **b)** $84.49 **c)** $96.32
15. $113.94
16. Video game #1 = $55.68   Video game #2 = $58.00
17. markup = $10.00   percentage markup = 50%
18. 60%
19. $600.00
20. **a)** 35% **b)** 135%
21. **a)** 33% **b)** 133%