Routine Percentages etc Practice #2

1. If 1 tablespoon is 14.75 mL, how many mL are in 20 tablespoons?

2. If a car uses 53 litres of petrol to go 600 kilometres, what rate does it use petrol at?

3. What is 120% as the simplest fraction?

4. One in every 6.3 apples is rotten. Is this more or less than 15%?

5. If 1 cup is 237 millilitres, how many cups are there in one litre (1000 mL)

6. A map is marked as being a scale 1 : 2000. How far does 5 cm on the map represent?

7. In the first hour Billy cleaned one fifth of the house, and in the next two hours he cleaned one quarter each hour. What fraction remained unclean after three hours?

8. If there are 2,000 non-HD TVs in out of 6,000 total. What is the ratio of non-HD to HD?

9. A company's share price is predicted to fall by 12%. If the price is now $4.30 what will it become?

10. If Ralph gets Achieved in 34 credits and Merit or better in 52, what % are Merit or better?

11. A car goes 100 km on 11.6 Litres of petrol. How many litres does it need to go 320 km?

12. Steve typically makes a typing error for 2.5% of words he types. If he types a 5000 word essay, how many errors would he typically make?

13. Twelve of the forty cars on a lot are imported. What fraction are not imported?

14. What is five-eighths of 58?

15. If the ratio of iPods to other players is 3:4. How many iPods would you predict in 200 randomly selected players?

16. If tiles cost $185 for each pack of 1 m^2, how many m^2 can you lay for $1200?

17. Roger eats a quarter of the peanuts. If James eats half of what is left, what fraction of the peanuts remain?

18. A company's assets grew from $2.3 million to $2.5 million. What percentage growth is that?

19. If the ratio of A:B is 6:5, how many As should there be for 80 Bs?

20. An island's population fell by 5.1% to 11,407. What was the original population?

Answers: Routine Percentages etc Practice #2

There are usually many ways of answering these questions (*but only one correct answer*).

1. 1 tblsp = 14.75 mm (× 14.75) 20 × 14.75 = **295 mL**

2. 53 L for 600 km 53 ÷ 600 = **0.088 L per km**

3. 120% = $^{120}/_{100}$ = $^{6 \times 20}/_{5 \times 20}$ = $\frac{6}{5}$

4. $^{1}/_{6.3}$ = 1 ÷ 6.3 = 0.1587 = $^{15.87}/_{100}$ = 15.87% **1 in 6.3 is more than 15%**

5. 1 cup = 237 mL (÷ 237) 1000 ÷ 237 = **4.22 cups**

6. 1 : 2000, so 5 cm = 5 × 2000 = 10,000 cm = 10000 ÷ 100 = **100 metres**

7. $1 - \frac{1}{5} - \frac{1}{4} - \frac{1}{4}$ = $\frac{3}{10}$

8. 2000 out of 6000, leaves 4000 HD TVs. 2000 **:** 4000 = **1 : 2**

9. 12% of \$4.30 = $^{12}/_{100}$ × 4.3 = 0.516. Take this from original 4.3 = **\$3.78**

10. 52 out of 86 (52 + 34) = $^{52}/_{86}$ = 0.60465 = $^{60.465}/_{100}$ = **60.5%**

11. 320 km = 3.2 lots of 100 km, each of which is 11.6 L 3.2 × 11.6 = **37.12 Litres**

12. 2.5% of 5000 = $^{2.5}/_{100}$ × 5000 = **125 errors**

13. 12 out of 40 imported = 28 out of 40 not = $^{28}/_{40}$ = $^{7 \times 4}/_{10 \times 4}$ = $\frac{7}{10}$

14. $\frac{5}{8}$ × 58 = **36.25 ($36\frac{1}{4}$)**

15. 3 **:** 4 so 3 + 4 = 7 shares. 200 ÷ 7 = 28.57 a share.
    Ipods have 3 shares, so 3 × 28.57 (and round to whole number) = **86 iPods**

16. 1200 ÷ 185 = 6.48 Can't buy ½ packs, so round down **6 m²**

17. After $\frac{1}{4}$ are eaten $\frac{3}{4}$ remain. $\frac{1}{2}$ of that $\frac{3}{4}$ is left after James = $\frac{1}{2}$ × $\frac{3}{4}$ = $\frac{3}{8}$

18. The rise is \$0.2 (\$2.5 – \$2.3). \$0.2 change on the <u>start value</u> of \$2.3
    = $^{0.2}/_{2.3}$ = 0.086956 0.086956 × 100 = **8.70%**

19. 6 **:** 5 = 96 : 80 (× 16 on both sides) **96 As**

20. 5.1% leave so 100 – 5.1 = 94.9% remain.
    We know 0.949 × start = 11407 So: start = 11407 ÷ 0.949 = **12,020**

(Questions 4, 15, 17 and 20 are Merit.)