BASIC ARITHMETIC

1) Evaluate $\frac{1}{\sqrt{5.3^2 - 1.7}}$ to 2 decimal places.

2) Round 183 479 208 to 3 significant figures.

3) Convert 1.07 to a fraction.

4) Write 35% as a fraction in its lowest terms.

5) Change 8.74% to a decimal.

6) Write $2\frac{3}{8}$ as a decimal.

7) What is 0.327 as a percentage?

8) Convert $\frac{11}{40}$ to a percentage.

9) Express $\frac{9}{11}$ as a decimal.

10) Express $1.7\dot{3}$ as a fraction.

11) Write 8 minutes as a fraction of 5 hours in its simplest form.

12) Mr Profit buys televisions for $400 then sells them for $595.

(a) What is his profit on each television as a percentage of the selling price?

(b) If Mr Profit sells one television at a 5% discount, what is his profit on this television as a percentage of the selling price?

13) Freddie Fast buys a Ferrari for $120 000. If the depreciation on the Ferrari is 8% per annum, what is it worth after 2 years?

14) Ms Dos sells computers. Last year her most popular computer was for sale at $2300. This year Ms Dos has increased the price by 6.5%. How much does she sell the computers for now?

15) Margaret Math needed to buy a calculator as her old one broke. She paid $26.50 for a new calculator. This price was 7% more than the price of her old calculator. How much did she pay for the old one?

16) The Loony Leapers are paid $500 for performing at Metropolis Public School. They pay out $300 in wages, $15 for equipment maintenance, $20 for petrol, and $30 for meals. What is their profit as a percentage of their fee?

17) The lead guitarist of The Red Herrings pays $3545 for a new guitar. He was given a 4% discount. What was the original price of the guitar?

18) Farmer Joan banked $35 000 from the sale of her harvester. She had bought it for $50 000 several years before. What loss did she make on the harvester as a percentage of the cost price?

19) Last week Manuel earned $300 for working 25 hours in a hotel. He also earned $10 in tips (he wasn't a very good waiter).

(a) What percentage did he earn from tips out of his total earnings?

(b) If 46% tax was taken out of the $300, how much pay did he take home?

20) Mr Moneybags put $3 000 000 into a bank account that earned 8% compound interest per annum. How much money is in the account after 3 years?

21) Miss Tree lost a \$20 note from her wallet. She knew that she had \$250 in her wallet in the morning. She had since paid \$39.95 for a skirt, \$109.75 for groceries, \$24.20 for fruit and vegetables and she also bought some meat. She then had \$21.10 left in her wallet.

(a) How much did she pay for the meat?

(b) What percentage of the \$250 did she spend?

(c) What percentage of her money did she lose?

22) Evaluate $\dfrac{3.7\times(1.4+3.9)\div 6}{8.2+5.9}$ correct to 3 significant figures.

23) Evaluate $\dfrac{\frac{5}{6}\div\frac{3}{4}}{\frac{1}{4}+\frac{3}{8}}$

24) Evaluate $\sqrt[3]{18.9^5-3.47^4}$ correct to 1 decimal place.

25) Simplify $(x^4)^3\times x^2$

26) Simplify $\dfrac{y^5\times y^7}{y}$

27) Simplify $\dfrac{a^4(b^2)^3}{a^3b^4}$

28) Evaluate $\dfrac{(x^2)^3y^9}{x^4(y^3)^4}$ when $x=\dfrac{2}{3}$ and $y=\dfrac{4}{9}$

29) Evaluate as a fraction 5^{-2}

30) Evaluate $\left(\dfrac{3}{5}\right)^0$

31) Evaluate $\left(\dfrac{2}{3}\right)^{-3}$

32) Write $\dfrac{1}{x^5}$ in index form.

33) Evaluate $8^{\frac{1}{3}}$

34) Evaluate $9^{-\frac{1}{2}}$ as a fraction.

35) Evaluate $27^{\frac{4}{3}}$

36) Evaluate $\sqrt[5]{128.9}$ correct to 1 decimal place.

37) Write $\sqrt[4]{x+3}$ in index form.

38) Evaluate $8.3\times10^{15}-7.1\times10^{13}$ and give your answer in scientific notation correct to 2 significant figures.

39) Write 5.62×10^{-4} as a decimal number.

40) Write 1 380 000 000 in scientific notation.

41) Simplify $\sqrt{75}$

42) Write $2\sqrt{44}$ in simplest surd form.

43) Evaluate $|-5-7|$

44) Evaluate $|-5|-|7|$

45) Evaluate $2|-3|+|-5|^2$

ANSWERS

1) 0.19
2) 183 000 000
3) $1\frac{7}{100}$
4) $\frac{7}{20}$
5) 0.0874
6) 2.375
7) 32.7%
8) $27\frac{1}{2}\%$
9) $0.\dot{8}\dot{1}$
10) $1\frac{73}{99}$
11) $\frac{2}{75}$
12) (a) 32.8% (b) 27.8%
13) \$101 568
14) \$2449.50
15) \$24.77
16) 27%
17) \$3692.71
18) 30%
19) (a) 3.2% (b) \$172
20) \$3 779 136
21) (a) \$35 (b) 83.56% (c) 8%
22) 0.232
23) $1\frac{7}{9}$
24) 134.1
25) x^{14}
26) y^{11}
27) ab^2
28) $5\frac{1}{16}$
29) $\frac{1}{25}$
30) 1
31) $3\frac{3}{8}$
32) x^{-5}
33) 2
34) $\frac{1}{3}$
35) 81
36) 2.6
37) $(x+3)^{\frac{1}{4}}$
38) 8.2×10^{15}
39) 0.000 562
40) 1.38×10^{9}
41) $5\sqrt{3}$
42) $4\sqrt{11}$
43) 12
44) -2
45) 31