

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

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

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 $\frac{y^5 \times y^7}{y}$

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

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

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

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

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

32) Write $\frac{1}{x^5}$ 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 $8.3 \times 10^{15} - 7.1 \times 10^{13}$ 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) 0.81
- 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