

General Revision

1 The number 4809000 written in scientific notation correct to three significant figures is:

- A 4.80×10^6 B 4.809×10^6
 C 4.81×10^6 D 480.9×10^4

2 A car depreciates in value from \$45000 to \$29660 at a rate of 8% p.a using the declining-balance method. The number of years it has been depreciating is:

- A 3 B 4
 C 5 D 6

3 A circle has a diameter of 8.4 cm. The area of the circle correct to one decimal place is:

- A 55.4 cm^2 B 221.7 cm^2
 C 13.2 cm^2 D 696.4 cm^2

4 Find 75% of \$400 and add it to 50% of \$129.

- A \$368.60 B \$325
 C \$332.50 D \$364.50

5 Which statement is true?

- A 1 GB = 1024 MB B 1 kB = 1024 MB
 C 1 PB = 1024 GB D 1 TB = 1024 kB

6 There are 12 girls in a class of 28 students. The ratio of boys to girls in the class is:

- A 4:3 B 3:4
 C 4:7 D 3:7

7 The speed limit in the Harbour Tunnel is 80 km/h.

This is equivalent to:

- A 2.2 m/s B 22.2 m/s
 C 133.3 m/s D 1333.3 m/s

8 How many files of size 5.7 MB can be stored on a hard drive of 6 GB?

- A $6 \times 1024 \div 5.7$ B $6 \times 1024 \times 5.7$
 C $6 \times 5.7 \div 1024$ D $1024 \div (6 \times 5.7)$

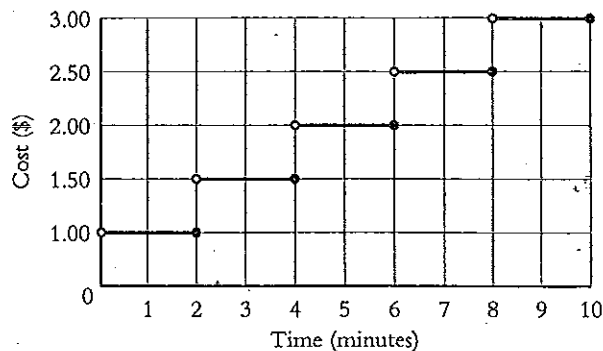
9 Two months after joining an aerobics class, Matthew had reduced his weight by 15% to 57.8 kg. What was his original weight?

- A 49 kg B 66.5 kg
 C 68 kg D 72.8 kg

10 A tap is dripping water at a rate of 90 drops per minute. Each drop is 0.3 mL. How many litres drip from a tap in a day?

- A 1.62 B 19.44
 C 38.88 D 432

11 The following step graph shows the cost of calls on a phone plan:



What is the cost of three calls lasting 5 minutes, $2\frac{1}{2}$ minutes, and 9 minutes 15 seconds?

- A \$5.00 B \$5.50
 C \$6.00 D \$6.50

12 A plan has a connection fee of 16 cents plus 58 cents for each $\frac{1}{2}$ minute, or part thereof, for calls.

What is the cost for a 6 minute 44 second call?

- A \$3.90 B \$7.70
 C \$8.12 D \$8.28

13 The running costs of a vehicle include all of the following, *except* for:

- A fuel B tyres
 C service and repairs D interest paid on loan

14 From the top of a vertical cliff 150 m above sea level, the angle of depression of a boat out at sea is 33° . How far is the boat from the base of the cliff?

- A 275 m B 179 m
 C 231 m D 255 m

15 The top of a flagpole is attached to a wire stay that is 30 metres long and makes an angle of 45° with the horizontal. The other end of the wire is attached to a cement plug in the ground at the same level as the foot of the post. Find the height of the flagpole to the nearest metre.

- A 21 m B 30 m
 C 31 m D 16 m

28 The distance a car travels in 15 minutes if its speed is 40 km/h is:

- A 10 km B 20 km
C 30 km D 40 km

29 A number is decreased by 3, then this amount is doubled. The result is 79. Which of these equations represents this information?

- A $3 - 2x = 79$ B $2x - 3 = 79$
C $2(3 - x) = 79$ D $2(x - 3) = 79$

30 A car that was bought for \$6000 is resold at a loss of $12\frac{1}{4}\%$. Find the selling price.

- A \$5000 B \$5100
C \$5265 D \$5800

31 Evaluate $\sqrt{\frac{\pi \times (5.423)^2}{18.927}}$ correct to one decimal place.

1 mark

32 Evaluate $\frac{1}{(7.365)^2} - \frac{1}{(8.468)^2}$ correct to three significant figures.

1 mark

33 Find 80% of \$6450 and decrease this amount by 12%.

1 mark

34 \$3600 is invested in a fund giving 9% interest per year. How much interest is received for 5 years?

1 mark

35 A video costing \$348 is sold for \$525. Express the gain as a percentage of the cost price. [Answer correct to two decimal places.]

1 mark

36 Solve the following equations:

a $x - 7 = 8$

1 mark

b $\frac{5x}{8} = 25$

1 mark

37 Samantha is charged 35¢ for each call she makes. In a month where she made 85 calls, she was charged \$36.00, including her monthly access fee. How much is the monthly access fee?

1 mark

38 Use the formula $BAC_{male} = \frac{10N - 7.5H}{6.8M}$

to calculate the blood alcohol content of a 75 kg male who has consumed six standard drinks in 4 hours.

1 mark

39 James is charged 23¢ for each SMS, while being charged 38¢ for each MMS. What is the cost of sending 45 SMS and 32 MMS messages?

1 mark

43 The table below shows the monthly repayment for each \$1000 borrowed on a reducing balance personal loan:

Year	Interest rate				
	8%	9%	10%	11%	12%
4	\$24.41	\$24.89	\$25.36	\$25.85	\$26.33
5	\$20.28	\$20.76	\$21.25	\$21.74	\$22.24
6	\$17.53	\$18.03	\$18.53	\$19.03	\$19.55
7	\$15.59	\$16.09	\$16.60	\$17.12	\$17.65
8	\$14.14	\$14.65	\$15.17	\$15.71	\$16.25

Stephanie borrows \$12000 to help finance the purchase of her car. This loan is to be repaid over 4 years at 9% p.a., reducible.

a Calculate the amount of each monthly repayment.

1 mark

b Calculate the total payment on the loan. 1 mark

40 A new car is bought for \$48 000. It depreciates at \$4500 each year, using straight-line depreciation. It will be sold when its value reaches \$21 000. For how many years will it depreciate before it is sold?

1 mark

41 A Honda CB250 bike has a tank size of 15 litres. If the economy is rated at 4.3 L/100 km, calculate the range on one tank of fuel.

1 mark

44 A square photo has sides 6.2 cm long. If each side is increased by 1 cm, what is the percentage increase in the area?

2 marks

42 Vicki is issued with a \$165 traffic fine. This included the 10% GST. How much is the GST on this fine?

1 mark

45

Use the formula $d = 0.7v + 0.01v^2$ to calculate the total stopping distance of a car travelling at 85 km/h ($d =$ stopping distance [metres]; $v =$ speed [km/h]).

1 mark

46

A pair of dice is thrown. What is the probability of obtaining a:
a double number?

1 mark

b total of 6?

1 mark

c total less than 6?

1 mark

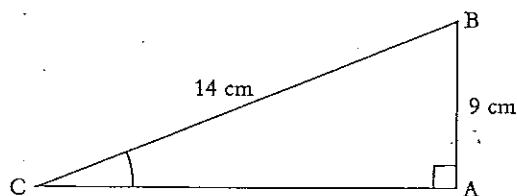
47

From a cliff 160 m high, the angle of depression of a boat out to sea is 24° .

Draw a diagram representing this situation and calculate the distance of the boat from the foot of the cliff. [To the nearest metre.] 2 marks

48

In the figure $\angle A = 90^\circ$, $AB = 9$ cm and $BC = 14$ cm. Find angle C to the nearest degree.



1 mark

49

Eight students sat for examinations in Mathematics and English. They scored the following marks:

<i>Mathematics</i>	55	60	53	73
	63	56	73	71
<i>English</i>	58	76	66	74
	64	62	80	74

a Find the mean and standard deviation for each of the two sets of examination results.

2 marks

b Find the median for the English scores. 1 mark



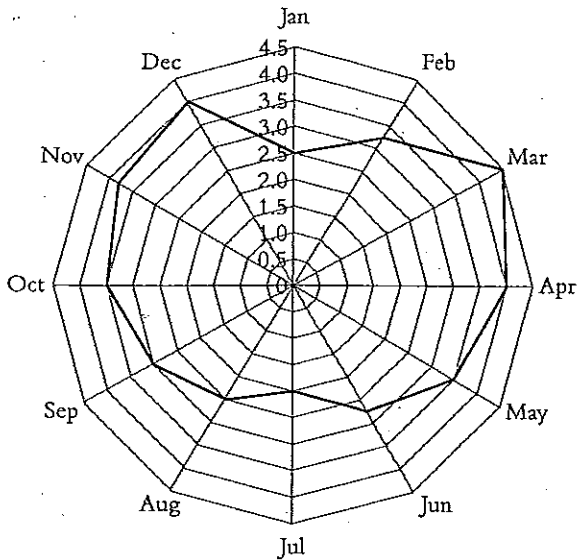
Anastasia is travelling at 66 km/h. It takes her 1.8 seconds to react when she sees a young boy run out onto the road.

a Convert this speed to metres per second.

1 mark



This radar chart shows data usage (in GB) over a 1-year period:



a For how many months is the data usage greater than 3.5 GB? 1 mark

b What is the range in data usage over the year? 1 mark

b Calculate the distance she travels during her reaction time.

1 mark



A class of ten students scored the following marks (out of 15) in a mathematics test:

8, 12, 14, 12, 10, 9, 12, 15, 14, 12

For this distribution, find the:

a mode

1 mark

b range.

1 mark



Determine which of the following are discrete or continuous variables:

a The mass of a packet of flour.

1 mark

b Marks obtained in a maths test. 1 mark

b During a party, the guests consume 80% of the above mixture. How many litres of mixture remain? 1 mark

54 The side, s , of a square with diagonal, D , is given by the formula $s^2 = \frac{D^2}{2}$.

Find, to the nearest cm, the length of a side of the square with a diagonal equal to 44 cm, correct to two decimal places. 1 mark

57 A manufacturer increases the price of a car by 25% to a new selling price of \$26 000. What was the selling price of the car before this increase? 1 mark

55 The density, D g/cm³, of a body of mass M grams with volume V cm³ is given by the formula $D = \frac{M}{V}$.

Find the density of oil if 0.765 kg occupies a volume of 1 L. 1 mark

58 Given that $T^3 = 8.4 \times 10^{12}$, find T to the nearest whole number. 1 mark

59 Pure gold is also known as 24 carat gold. 18 carat gold is 75% pure since $\frac{18}{24} = 75\%$.

a How much gold would there be in 3 grams of 18 carat gold? 1 mark

56 a To 10 litres of orange juice, Michelle adds water to increase the volume by 40%. What is the volume of the final mixture? 1 mark

b What is the percentage of pure gold in 9 carat gold? 1 mark

- 60** There are approximately 50 bricks per square metre in a brick wall. Calculate how many bricks are needed to construct a rectangular brick wall which is 12.8 metres long and 2.4 metres high.
[The number of bricks required = Area of wall in $\text{m}^2 \times$ Number of bricks per m^2] 1 mark

61 The owner's manual for a car states the fuel tank holds 65 litres.

- a Calculate the cost of filling the tank at 159.9¢/L.

1 mark

- b Given the fuel consumption is 7.5 litres per 100 km, calculate the distance travelled on one tank of fuel.

1 mark

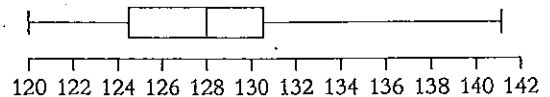
- 62** A cleaning solution is made up by adding 125 mL of detergent to 4 L of water. How much detergent should be added to 800 mL of water to give a solution of the same strength?

1 mark

- 63** A school sold calculators at \$27 each compared with a city store that sold the same for \$36. How much cheaper are these calculators as a percentage of the city store's price?

1 mark

- 64** The seconds taken to download a number of different videos from the internet are shown in this box-and-whisker plot:



What is the median time and interquartile range for these results?

2 marks

1 The number 4 809 000 written in scientific notation correct to three significant figures is 4.81×10^6 . Don't confuse significant figures with the number of decimal places. And remember, in this question you need to round up. ✓

2 The number of years is 5. You could use the depreciation formula $A = P(1 - r)^n$ and use trial and error, or simply argue that each successive year the value of the car is only 92% of the previous year's value (having dropped by 8%). So $0.92 \times \$45\,000 = \$41\,400$; $0.92 \times \$41\,400 = \$38\,088$; $0.92 \times \$38\,088 = \$35\,040.96$; $0.92 \times \$35\,040.96 = \$32\,237.68$; $0.92 \times \$32\,237.68 = \$29\,658.67$.
You did this calculation five times. ✓

3
$$\begin{cases} d = 8.4 \text{ cm} \\ r = 4.2 \text{ cm} \end{cases} \quad \begin{aligned} A &= \pi r^2 \\ A &= \pi \times (4.2)^2 \\ A &= 55.417694\dots \text{ cm}^2 \text{ [Cal.]} \\ A &= 55.4 \text{ cm}^2 \quad \checkmark \end{aligned}$$

4
$$\begin{aligned} 75\% \text{ of } \$400 + 50\% \text{ of } \$129 &= 75\% \times \$400 + 50\% \times \$400 \\ &= \$300 + \$64.50 \\ &= \$364.50 \quad \checkmark \end{aligned}$$

5 The true statement is 1 GB = 1024 MB. In going up to larger units, bytes → kilobytes → megabytes → gigabytes → terabytes, you are multiplying by $2^{10} = 1024$. ✓

6 Boys: Girls
16:12
4:3 ✓

7
$$\begin{aligned} \frac{80 \text{ km}}{1 \text{ hour}} &= \frac{80 \times 1000 \text{ m}}{60 \times 60 \text{ seconds}} \\ &= 22.2 \text{ m/s} \quad \checkmark \end{aligned}$$

8 $6 \text{ GB} = 6 \times 1024 \text{ MB}$ ∴ the number of files is $6 \times 1024 \text{ MB} \div 5.7$. ✓

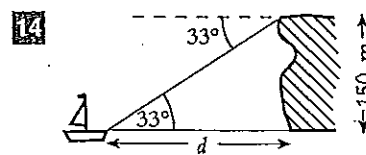
9
$$\begin{aligned} 85\% \text{ of Matthew's weight} &= 57.8 \\ 1\% \text{ of Matthew's weight} &= \frac{57.8}{85} \\ 100\% \text{ of Matthew's weight} &= \frac{57.8}{85} \times 100 \\ &= 68 \text{ kg} \quad \checkmark \end{aligned}$$

10 Number of drops dripped in 1 day
$$\begin{aligned} &= 90 \times 60 \times 24 \\ &= 129\,600 \\ &= 129\,600 \times 0.3 \text{ mL} \\ &= 38\,880 \text{ mL} \\ &= \frac{38\,880}{1000} \text{ L} \\ &= 38.88 \text{ L} \quad \checkmark \end{aligned}$$

11 Cost for three calls is $\$2.00 + \$1.50 + \$3.00 = \6.50 . ✓

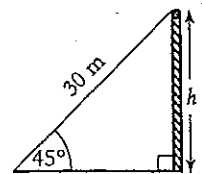
12 Cost = $\$0.16 + 14 \times \$0.58 = \$8.28$, as there are 14 half-minute blocks. ✓

13 Interest paid on a loan is not a vehicle running cost. You will pay interest on any outstanding loan regardless of whether you run the car or just leave it in the garage. Interest is referred to as a *standing cost*. ✓



$$\begin{aligned} \tan 33^\circ &= \frac{150}{d} \\ d \tan 33^\circ &= 150 \\ d &= \frac{150}{\tan 33^\circ} \\ d &= 230.97974 \text{ [Cal.]} \\ d &= 231 \text{ metres [to nearest metre]} \quad \checkmark \end{aligned}$$

15
$$\begin{aligned} \frac{h}{30} &= \sin 45^\circ \\ h &= 30 \sin 45^\circ \\ h &= 21.213203\dots \text{ [Cal.]} \\ h &= 21 \text{ m [to nearest metre]} \quad \checkmark \end{aligned}$$



16
$$\begin{aligned} 7.2 \times 2^{20} &= 7549747 \text{ kb} \\ \text{Time} &= 7549747 \div 1024 \\ &= 7372.8 \text{ seconds} \\ &= 2.048 \text{ hours} \quad \checkmark \end{aligned}$$

17 You begin with six songs to choose from. Having chosen one of them, there is then a choice from five songs, etc. In other words, $6 \times 5 \times 4 \times 3 \times 2 \times 1$. ✓

18
$$\begin{aligned} P(\text{Having a number} > 4) &= \frac{2}{6} \\ &= \frac{1}{3} \quad \checkmark \end{aligned}$$

19 The value of this car falls within the first bracket. $\frac{\$25\,000}{\$200} = 127.5$ lots of \$200, and you pay \$6 for each of those \$200, or part thereof. So the stamp duty = $128 \times \$6 = \768 . ✓

20
$$\begin{aligned} 110\% \text{ of } \$100 &= 110\% \times \$100 \\ &= \$110 \\ \text{Now } \$110 \text{ is reduced by } 10\%. \\ 90\% \text{ of } \$110 &= 90\% \times \$110 \\ &= \$99 \quad \checkmark \end{aligned}$$

21
$$\begin{aligned} C &= \sqrt{\frac{a-b}{a+b}} \\ C &= \sqrt{\frac{5.3-2.1}{5.3+2.1}} \\ C &= \sqrt{\frac{3.2}{7.4}} \\ C &= 0.657595\dots \text{ [Cal.]} \\ C &= 0.658 \text{ [3 d.p.]} \quad \checkmark \end{aligned}$$

22 Cost price = \$150
 Selling price = \$250
 Profit = $SP - CP$
 $= \$250 - \150
 $= \$100$

Profit as a % of the $CP = \frac{100}{150} \times 100\%$
 $= 66\frac{2}{3}\%$ ✓

23 The mean is $(175 + 144 + 128 + 155 + 120 + 134 + 166 + 150) \div 8 = 146.5$ seconds. To find the median, first arrange the times in order: 120, 128, 134, 144, | 150, 155, 166, 175. The vertical mark is the median (147), which divides these numbers into two equal groups. Thus, median > mean. ✓

24

Score (x)	Frequency (f)	f × x
2	1	12
3	6	18
4	5	20
	$\Sigma f = 12$	$\Sigma fx = 40$

Mean = $\bar{x} = \frac{\Sigma fx}{\Sigma f} = \frac{40}{12} = 3.3$ [1 d.p.] ✓

25 Mode (since mode is the most popular) ✓

26 Mean (average mark) ✓

27 $P(E) = \frac{n(E)}{n(S)}$
 $= \frac{1}{2}$ ✓

28 You could use the formula Distance = Speed × Time, but it is simpler to reason that, if you cover 40 km in an hour, you will cover only $\frac{1}{4} \times 40 = 10$ km in one-quarter of an hour. ✓

29 $2(x - 3) = 79$ ✓

30 Cost price = \$6000
 Loss = $12\frac{1}{4}\%$

Loss on the car = $12\frac{1}{4}\%$ of \$6000
 $= \frac{12\frac{1}{4}}{100} \times \6000
 $= \$735$

Selling price = Cost price - Loss
 $= \$6000 - \735
 $= \$5265$ ✓

31 $\sqrt{\frac{\pi \times (5.423)^2}{18.927}} = 2.209396... \text{ [Cal.]}$
 $= 2.2$ [1 d.p.] ✓

32 $\frac{1}{(7.365)^2} - \frac{1}{(8.468)^2} = \frac{1}{54.243435482} - \frac{1}{71.707024}$
 $= 4.489846... \times 10^{-3} \text{ [Cal.]}$
 $= 4.49 \times 10^{-3}$ [3 s.f.]
 $= 0.00449$ [3 s.f.] ✓

33 80% of \$6450 = $80\% \times \$6450$
 $= \$5160$
 88% of \$5160 = $88\% \times \$5160$
 $= \$4540.80$ ✓

34 $I = Prn$
 Interest = $\$3600 \times 9\% \times 5$
 $= \$1620$ ✓

35 Cost price = \$348
 Selling price = \$525
 Gain = $\$525 - \348
 $= \$177$
 Gain as a percentage of the cost price
 $= \frac{177}{348} \times 100$
 $= 50.8620...% \text{ [Cal.]}$
 $= 50.86\%$ [2 d.p.] ✓

36 a $x - 7 = 8$
 $x = 8 + 7$
 $x = 15$ ✓

b $\frac{5x}{8} = 25$
 $5x = 25 \times 8$
 $5x = 200$
 $x = 200 \div 5$
 $x = 40$ ✓

37 The calls cost $\$0.35 \times 85 = \29.75 . Since she paid \$36.00, her monthly access fee is $\$36.00 - \$29.75 = \$6.25$. ✓

38 $BAC = \frac{10 \times 6 - 7.5 \times 4}{6.8 \times 75} = 0.059$ ✓

39 SMS costs $\$0.23 \times 45 = \10.35
 MMS costs $\$0.38 \times 32 = \12.16
 Total = $\$10.35 + \$12.16 = \$22.51$ ✓

40 Using the straight-line depreciation formula,
 $21000 = 48000 - 4500 \times n$
 Rearranging, $n = \frac{48000 - 21000}{4500} = 6$ years. ✓

41 Every litre covers a distance of $\frac{100}{4.3}$, so for 15 L,
 distance = $\frac{100}{4.3} \times 15 = 348.8$ km, or around 350 km. ✓

72 Ten parts are the fine + 1 part (10%) is added as the GST.

$$\text{So 11 parts} = \$165 \therefore 1 \text{ part} = \frac{\$165}{11} = \$15. \quad \checkmark$$

73 a Monthly = $\$24.89 \times 12$
 $= \$298.68 \quad \checkmark$

b Total = $\$298.68 \times 12 \times 4$
 $= \$14\,336.64 \quad \checkmark$

74 Area of the square photo = $(6.2)^2 \text{ cm}^2$
 $= 38.44 \text{ cm}^2$

Length of the side of the square after the increase = 7.2 cm

Area after increase = $(7.2)^2$
 $= 51.84 \text{ cm}^2$

Increase in area = $51.84 - 38.44 \text{ cm}^2$
 $= 13.4 \text{ cm}^2 \quad \checkmark$

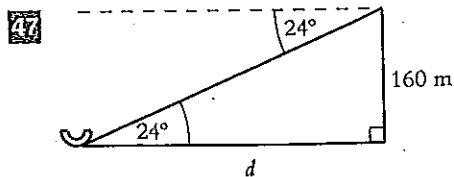
Percentage increase in area = $\frac{13.4}{38.44} \times 100$
 $= 34.86\% \text{ [2 d.p.]} \quad \checkmark$

75 $d = 0.7 \times 85 + 0.01 \times (85)^2$
 $= 131.75 \text{ m} \quad \checkmark$

76 a $\frac{6}{36} = \frac{1}{6} \quad \checkmark$

b $\frac{5}{36} \quad \checkmark$

c $\frac{10}{36} = \frac{5}{18} \quad \checkmark$



$$\tan 24^\circ = \frac{160}{d}$$

$$d \tan 24^\circ = 160$$

$$d = \frac{160}{\tan 24^\circ}$$

$$d = 359.365... \text{ [Cal.]}$$

$$d = 359 \text{ metres [to nearest m]} \quad \checkmark$$

78 $\sin C = \frac{9}{14}$

$$\therefore \angle C = 40^\circ \text{ [to nearest degree]} \quad \checkmark$$

79 a If we find the mean \bar{x} and the standard deviation σ_n by using the SD mode of a scientific calculator, then for Mathematics:

Mean $\bar{x} = 63$ marks

The standard deviation $\sigma_n \approx 7.8$ marks \checkmark

For English:

Mean $\bar{x} = 69.25$ marks

The standard deviation $\sigma_n \approx 7.3$ marks \checkmark

b Arrange the English scores in ascending order:

58, 62, 64, 66, 74, 74, 76, 80

The median mark is the mean of the two middle scores

66 and 74, i.e. $\frac{66 + 74}{2} = 70 \quad \checkmark$

50 a Four months (March, April, November, December) \checkmark

b Range = $4.5 - 2.0 = 2.5 \text{ GB} \quad \checkmark$

51 a $66 \text{ km/h} \times 1000 \text{ m/1 km} \times 1 \text{ h/60 min} \times 1 \text{ min/60 s}$

$$= 18\frac{1}{3} \text{ m/s. Or, simply divide } 66 \text{ km/h by } 3.6 \text{ to}$$

change it to m/s. \checkmark

b Distance travelled = $18\frac{1}{3} \times 1.8 = 33 \text{ m} \quad \checkmark$

52 a Mode = 12 \checkmark

b Range = $15 - 8 = 7 \quad \checkmark$

53 a Continuous \checkmark

b Discrete \checkmark

54 $s^2 = \frac{D^2}{2}$

$$s^2 = \frac{(44)^2}{2}$$

$$s^2 = 968$$

$$s = 31.11269... \text{ [Cal.]}$$

$$s = 31.11 \text{ cm} \quad \checkmark$$

55 $D = \frac{M}{V}$

$$D = \frac{765}{1000}$$

$$D = 0.765 \text{ g/cm}^3 \quad \checkmark$$

$$\left[\begin{array}{l} M = 765 \text{ gms} \\ V = 1 \text{ litre} \\ = 1000 \text{ mL} \\ = 1000 \text{ cm}^3 \end{array} \right]$$

56 a Original volume = 10 L

Increase in volume = 40% of 10 L

$$= 40\% \times 10 \text{ L}$$

$$= 4 \text{ L}$$

Volume of final mixture = 10 L + 4 L

$$= 14 \text{ L} \quad \checkmark$$

b Guests consume 80% of the final mixture.

Amount left = 20% of 14 L

$$= 20\% \times 14 \text{ L}$$

$$= 2.8 \text{ L} \quad \checkmark$$

57 $125\% = \$26\,000$

$$1\% = \frac{\$26\,000}{125} = \$208$$

$$100\% = \$208 \times 100$$

$$= \$20\,800 \quad \checkmark$$

58 $T^3 = 8.4 \times 10^{12}$

$$T = \sqrt[3]{8.4 \times 10^{12}}$$

$$T = 20\,327.927... \text{ [Cal.]}$$

$$T = 20\,328 \text{ [to nearest whole number]} \quad \checkmark$$

59 a Pure gold in 3 g of 18 carat gold = 75% of 3 g

$$= 75\% \times 3$$

$$= 2.25 \text{ g} \quad \checkmark$$

b Percentage of pure gold in 9 carat gold = $\frac{9}{24} \times 100$

$$= 37.5\% \quad \checkmark$$

60 Area of wall = $(12.8 \times 2.4) \text{ m}^2$

Area of wall = 30.72 m^2

Number of bricks required

= Area of wall in $\text{m}^2 \times$ Number of bricks per m^2

= 30.72×50

= 1536 ✓

61 a Cost = $65 \times 159.9 = 10393.5$ cents = \$103.94 ✓

b 1 L covers $\frac{100}{7.5} \text{ km}$, so 65 L covers

$65 \times \frac{100}{7.5} = 866.7 \text{ km}$ ✓

62 In 4000 mL of water, detergent added = 125 mL

In 1 mL of water, detergent added = $\frac{125}{4000} \text{ mL}$

In 800 mL of water, detergent added = $\frac{125}{4000} \times 800 \text{ mL}$
= 25 mL ✓

63 Price at store = \$36

Price at school = \$27

Difference in price = $\$36 - \27

= \$9

Cheaper as a % of the city store = $\frac{9}{36} \times 100\%$

= 25% ✓

64 Median = 128 seconds ✓

Interquartile range = $130.6 - 124.5$

= 6.1 seconds ✓