

Question	Solution	Marks
1.	$100\% = \$2500$ $80\% = \frac{2500}{100} \times 80$ $= \$2000$	M1 A1
2.	$3(x-2)(x+4)=0$ $(x-2)=0$ or $(x+4)=0$ $X=2$ or $x=-4$	M1 A1
3.	Time taken for Nigel = 0715-0630 $= 0045 = 0.75$ hours Average speed = $\frac{D}{T}$ $= \frac{36}{0.75}$ $= 48$ km/h	M1 A1
4.	$\sqrt{(3-1)^2 + (-2-4)^2}$ $= 6.32$ units	M1 A1
5.	(a) $150 = 2 \times 3 \times 5^2$ (b) $K = 6$	B1 B1
6.	$x + 2x - 3 + \frac{x}{2} + 6$ $= 3x + \frac{x}{2} + 3$ a) $= 3\frac{1}{2}x + 3$ $= \frac{7}{2}x + 3$	M1 A1
	$\frac{7}{2}x + 3 = 38$ b) $\frac{7}{2}x = 35$ $x = 10$ yearsold	M1 A1
7.	a) 0.047101414	B1
	b) i) 0.0471	B1
	c) ii) 0.04710	B1
8.	a) 0.5 oe	B1
	b) 20 cm	B1
	c) 130°	B1
	$\frac{1}{2} \times a \times b \times \sin C$ d) $= \frac{1}{2} \times 20 \times 40 \times \sin 130^\circ$ $= 306$ cm ²	M1 A1

9.	$\frac{2x}{3} - \frac{3(x-2)}{5}$ <p>a) $= \frac{10x}{15} - \frac{9(x-2)}{15}$</p> $= \frac{x+18}{15}$	M1 A1
	<p>b) $(2y-1)(y+5)=0$ $2y-1=0$ or $y+5=0$ $Y=0.5$ or $y=-5$</p>	M1 A1
10.	a) i) 27	B1
	b) ii) 27.5	B1
	<p>c) Total score of 25 students = $27 \times 25 = 675$ Total score of 24 students = 642 New student = $675 - 642 = 33$</p>	M1 A1
11.	a) $\angle ACB = \sin^{-1}(0.6)$ $= 36.9^\circ$	M1 A1
	<p>b) $BC^2 = 10^2 - 6^2$ $BC = \sqrt{64}$ $= 8 \text{ cm}$</p>	M1 A1
12.	a) $x^2 - 4x - 5 = (x-2)^2 - 5 - 4$ $= (x-2)^2 - 9$	M1 A1
	$(x-2)^2 - 9 = 1$ $(x-2)^2 = 10$ <p>b) $x-2 = \pm\sqrt{10}$ $x = \pm\sqrt{10} + 2$ $\therefore x = 5.16$ or $x = -1.16$</p>	M1 A1
13.	a) 21, 25	B1
	b) $4n+1$	B1
	c) 401	B1
	<p>d) 4 men took 10 days 8 Men took 5 days $8-4=4$ more men</p>	M1 A1
14.	a) i) $n = 0$	B1
	ii) $n = -3$	B1
	iii) $n = -2$	B1
	b) i) 4.3×10^{10}	B1
	ii) 0.12 mm	B1
15.	a) $(n-2) \times 180^\circ$ $= 5 \times 180^\circ$ $= 900^\circ$	M1 A1
	<p>b) $120(4) + x + x + 92 + 2x - 20 = 910$ $x = 87^\circ$</p>	M1

	$x+92^0 = 87^0+92^0 = 179^0$	M1, A1
16.	a) $x = 8 + \frac{4}{8}$ $= 8.5$	M1 A1
	$x = y + \frac{wv^2}{y}$ $x = \frac{y^2 + wv^2}{y}$ b) $\frac{xy - y^2}{w} = v^2$ $\pm \sqrt{\frac{xy - y^2}{w}} = v$	M1 A1
17.	$x \leq 10$ a) $x > 7$ $x = 8,9,10$	M1 A1
	b) i) $3 - (-8)$ $= 11$	B1
	ii) $3(-8)+2 = -22$	B1
	iii) 64	B1
18.	a) A = (0, 10) C = (-15, 0)	B1 B1
	b) $\frac{2}{3}$	B1
	c) B = (-5, 0)	B1
	$50 = \frac{1}{2} \times 18 \times d$ d) $d = 5\frac{5}{9} \text{ units}$	M1 A1
19.	$\cos 49 = \frac{AM}{9}$ $AM = 9\cos 49 = 5.90\text{cm}$ $AB = 11.8\text{cm}$ a) $\sin 49 = \frac{OM}{9}$ $OM = 9\sin 49 = 6.792386$ $\text{Area of triangle} = \frac{1}{2} \times 11.80906 \times 6.79238622 = 40.1\text{cm}^2$	M1 M1 M1, A1

	$\angle AOM = 41^\circ$ $\angle AOB = 82^\circ$ b) Area of sector = $\frac{82}{360} \times \pi r^2$ 58.0 cm^2	M1 A1

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1.	a) $250 \div 2.52 = 99.21$	B1
	b) Price including commission = $101.85\% \times 3000$ = \$3055.30 Amount in RM = 3055.30×2.52 = RM 7699.86	M1 A1
2.	a) i) 1	B1
	ii) x^6	B1
	b) 8.308×10^7	B2
3.	$5000 \left(1 + \frac{4.8}{100}\right)^3$ = \$5755.11	M2 A1
4.	Total Volume = 103.67 cm^3	
5.	a) 2 m/s^2	B1
	b) Distance travelled = $\frac{1}{2} \times 96 + 126 + 70$ = 244 m	M1 A1
	c) Deceleration = -1.4 m/s^2 U = 7 m/s	M1 A1
6.	a) $3(p-4)(p+4)$	B2
	b) $4x-2-3x-6=14$ $x-8=14$ $x=22$	M1 M1 A1
	c) $X=1.22$ or $x=-2.77$	
7.	a) $0.006v^2$	
	b) 86.41 m	B1
	c) 0.39 h	
8.	a) 22 hour at home and 33 hour at office	
	b) $y = -\frac{16}{19}, x = 1.45$	
9.	a) QR = RS (given) PQ=QR(given) $\angle PQR = \angle QRS$ (given) PQR is congruent QRS	M1 A1
	b) 125^0	
10.	a) 59°	B1

	b) 23°	B1
	c) 31°	B1
	d) 298°	
	e) 59°	B1
	f) 50°	B1
11.	a) i) 51	B1
	ii) 22	
	iii) 115	
	b) $\frac{80}{177}$	
12.	a) $P = 13, q = 58$	B1
	b) On graph paper A1 + A1 + A1	A1 for scale A1 for correct plot A1 for smoothness
	c) When $y = 15, x = 0.8$ or 3.7	B1
	d) -6.34	