

N levels Practice Paper 1 2017 Answers (with Marking Scheme)

Question Number	Question Part	Solution Steps	Marks
1	(a)	0.19	B1
1	(b)	5500	B1
2	(a)	360 $= 2 \times 180$ $= 2 \times 2 \times 90$ $= 2 \times 2 \times 2 \times 3 \times 3 \times 5$ $= 2^3 \times 3^2 \times 5$	M1 A1
2	(b)	HCF = 72	B1
3	(a)	45 : 120 = 3 : 8	B1
3	(b)	$\frac{4}{13} \times \$260 = \80	B1
4		Number of days $= \frac{10 \times 84}{15}$ $= 56 \text{ days}$	M1 A1
5		$2x(x - y) + (x - y)(x + y)$ $= \underline{2x^2 - 2xy} + \underline{x^2 - y^2}$ $= 3x^2 - 2xy - y^2$	M1 + M1 A1
6		$\frac{5x}{(x+2)(3x-2)} - \frac{3}{3x-2}$ $= \frac{5x}{(x+2)(3x-2)} - \frac{3(x+2)}{(3x-2)(x+2)}$ $= \frac{5x - 3x - 6}{(x+2)(3x-2)}$ $= \frac{2x - 6}{(x+2)(3x-2)}$	M1 M1 A1
7	(a)	$6x^2 - 28x - 10$ $= 2(3x^2 - 14x - 5)$ $= 2(3x+1)(x-5)$	M1 A1
7	(b)	$2pr + 4qr - p - 2q$ $= 2r(p+2q) - 1(p+2q)$ $= (p+2q)(2r-1)$	M1 A1
Question	Question	Solution Steps	Marks

Number	Part		
8	(a)	Actual Length = 4.5 cm × 200 000 = 900 000 cm = 9 km	M1 A1
8	(b)	1 cm to 2 km 1 cm ² to 4 km ² Map Area = 36 ÷ 4 = 9 cm ²	M1 A1
9	(a)	$0.125\% = \frac{0.125}{100}$ $= \frac{1}{800}$	M1 A1
9	(b)	$\frac{72km}{5h} = \frac{14.4km}{1h}$ $= \frac{14400m}{3600s}$ = 4 m/s	M1 A1
10	(a)	Smallest integer value of xy = (-2)(8) = -16	B1
10	(b)	Largest integer value of $y - x$ = (8) - (-2) = 10	B1
10	(c)	Smallest integer value of $x^2 - y^2$ = (0) ² - (8) ² = -64	B1
11		$2x^2 + 15x - 19 = 0$ $x = \frac{-15 \pm \sqrt{(15)^2 - 4(2)(-19)}}{2(2)}$ $x = -8.60$ or 1.10	M1 A2
12	(a)	27, 32	B1
12	(b)	$5n - 3$	B1
12	(c)	2	B1
13	(a)	$\$900 \times 2.975$ = RM 2 677.50	M1 A1
13	(b)	RM 2 677.50 - RM 1 400 = RM 1 277.50 RM 1 277.50 × 0.36 = S\$ 459.90	M1 M1 A1
Question	Question	Solution Steps	Marks

Number	Part		
14		Total Interest $= \$50000 \left(1 + \frac{3}{100} \right)^3 - \50000 $= \$4\ 636.35$	M1 A1
15		$(n - 2) \times 180^\circ = 140^\circ \times n$ OR $n = \frac{360^\circ}{(180 - 140)^\circ}$ $180n - 360 = 140n$ $n = 9$	M1 A1
16	(a)	$\angle DCE = 180^\circ - 90^\circ - 42^\circ = 48^\circ$	B1
16	(b)	$\angle BAD = 360^\circ - 114^\circ - 114^\circ - 48^\circ - 48^\circ$ $= 36^\circ$	M1 A1
17	(a)	Correct construction of triangle with A , B and C labelled. Presence of construction arcs to show the location of point C	B1 B1
17	(b)(i)	Correct construction of perpendicular bisector of AB with construction arcs present. <i>(see the construction above)</i>	B1
17	(b)(ii)	Correct construction of angle bisector of $\angle ABC$ with construction arcs present. <i>(see the construction above)</i>	B1
17	(c)	$AT = 6.2\text{ cm } (\pm 0.1\text{ cm})$ <i>(see the construction above for the location of T)</i>	B1
Question	Question	Solution Steps	Marks

Number	Part		
18	(a)	$\angle TWX = 125^\circ$	B1
18	(b)	$\angle WXU = 55^\circ$	B1
18	(c)	$\angle XYZ = 63^\circ$	B1
19	(a)	$P(\text{the ball is green}) = \frac{24}{50} = \frac{12}{25}$	B1
19	(b)	$P(\text{the ball is red or blue}) = 1 - \frac{12}{25} = \frac{13}{25}$ or $\frac{26}{50} = \frac{13}{25}$	B1
20	(a)	Mode = 12	B1
20	(b)	Median = 21	B1
20	(c)	Mean = $\frac{300}{16}$ Mean = 18.75	M1 A1
21	(a)	$AC = \sqrt{9^2 + 12^2}$ $AC = 15 \text{ cm}$	M1 A1
21	(b)(i)	$\cos \angle BCD = \frac{12}{13}$	B1
21	(b)(ii)	$\sin \angle ADC = \frac{12}{13}$	B1
22	(a)	Total area of the school field $= (80 \times 100) + (3.142 \times 40^2)$ $= 13\,027.2 \text{ m}^2$	M1 A1
22	(b)	Perimeter of the school field $= (2 \times 3.142 \times 40) + 100 + 100$ $= 451.36 \text{ m}$	M1 A1
22	(c)	Total cost $= 451.36 \text{ m} \times \25 per m $= \$11\,284$	M1 A1
23	(a)	Volume of cylinder $= 3.142 (8)^2 (12)$ $= 2413.056 \text{ cm}^3$	M1 A1
23	(b)	Total Surface Area $= 2(3.142)(8)^2 + 2(3.142)(8)(12)$ $= 1005.44 \text{ cm}^2$	M1 + M1 A1
24	(a)	Gradient = 1	B1
24	(b)	$y = x - 2$	B1
24	(c)	$k = 4$	B1