

## **EAGLE EXAMINATIONBOARD**

## PRE-MOCK MATHEMATICS - MARKING GUIDE

1. $8m + n + m$ $8m + m + n$ $9m + n$ 2. $90 + 7$ $\downarrow \qquad \qquad$				
9m + n  2.  90 + 7	1.	8m + n + m		
2. $ \begin{array}{cccccccccccccccccccccccccccccccccccc$		8m + m + n	B <sub>2</sub>	for the correct response
3. $ \frac{5}{6} + \frac{1}{3} = \frac{5+2}{6}  \text{or} $ $ = \frac{7}{6} $ $ = 1\frac{1}{6} $ OR $ \frac{5}{6} + \frac{1}{3} \times CM $ $ = \frac{7}{6}$ $ = \frac{1}{6} \times S + \frac{1}{3} \times CM $ $ \frac{5}{6} \times S + \frac{1}{3} \times CM $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{6} $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{6} $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{6} $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{6} $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{6} $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{6} $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{6} $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{6} $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{6} $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{6} $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{6} $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{6} $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{6} $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{6} $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{6} $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{6} $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{6} $ $ \frac{5}{6} \times S + \frac{1}{3} \times S + \frac{2}{3} $ $ \frac{5}{6} \times S + \frac{2}{3} \times S + \frac{2}{3} $ $ \frac{5}{6} \times S + \frac{2}{3} \times S + \frac{2}{3} $ $ \frac{5}{6} \times S + \frac{2}{3} $		9m + n		
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$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	۷.		'''	Tor mo concer working
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		XC VII		
3. $\frac{5}{6} + \frac{1}{3} = \frac{5+2}{6}  \text{or}$ $= \frac{7}{6}$ $= 1\frac{1}{6}$ $= 1\frac{1}{6}$ $\frac{5 \times 3 + 6 \times 1}{6 \times 3}  \frac{7}{6}$ $= 1\frac{1}{6}$ $\frac{15+6}{18}$ $\frac{11}{6}$ $\frac{5}{6} \times 6 + \frac{1}{3} \times 6 \times 1$ $\frac{5}{6} \times 6 + \frac{1}{3} \times 6 \times 1$ $\frac{5}{6} \times 6 + \frac{1}{3} \times 6 \times 1$ $\frac{5}{6} \times 6 + \frac{1}{3} \times 6 \times 1$ $\frac{5}{6} \times 6 + \frac{1}{3} \times 6 \times 1$ $\frac{5}{6} \times 6 + \frac{1}{3} \times 6 \times 1$ $\frac{5}{6} \times 6 + \frac{1}{3} \times 6 \times 1$ $\frac{5}{6} \times 6 + \frac{1}{3} \times 6 \times 1$ $\frac{5}{6} \times 6 + \frac{1}{3} \times 6 \times 1$ $\frac{5}{6} \times 6 + \frac{1}{3} \times 6 \times 1$ $\frac{5}{6} \times 6 + \frac{1}{3} \times 6 \times 1$ $\frac{5}{6} \times 6 + \frac{1}{3} \times 6 \times 1$ $\frac{5}{6} \times 6 + \frac{1}{3} \times 6 \times 1$ $\frac{5}{6} \times 6 + \frac{1}{3} \times 6 \times 1$ $\frac{5}{6} \times 6 + \frac{1}{3} \times 6 \times 1$ $\frac{5}{6} \times 6 + \frac{1}{3} \times 6 \times 1$ $\frac{5}{6} \times$				
OR $ \frac{\frac{5}{6} LCM + \frac{1}{3} X CM}{LCM} $ $ \frac{\frac{5}{6} X 6 + \frac{1}{3} X 6^{2}}{6} $ $ \frac{\frac{5}{6} \times 6 + \frac{1}{3} \times 6^{2}}{6} $ $ \frac{\frac{5+2}{6}}{6} $ $ = \frac{7}{6}  1 \text{ rem } 1 $			Aı	for the correct response
OR $ \frac{\frac{5}{6} LCM + \frac{1}{3} X CM}{LCM} $ $ \frac{\frac{5}{6} X 6 + \frac{1}{3} X 6^{2}}{6} $ $ \frac{\frac{5}{6} \times 6 + \frac{1}{3} \times 6^{2}}{6} $ $ \frac{\frac{5+2}{6}}{6} $ $ = \frac{7}{6}  1 \text{ rem } 1 $	3.	$\left  \frac{5}{6} + \frac{1}{2} = \frac{5+2}{6} \right $ or $\left  \frac{5}{6} + \frac{1}{2} \right $ $\frac{21}{7}$	M <sub>1</sub>	for the correct working
OR $ \frac{\frac{5}{6} LCM + \frac{1}{3} X CM}{LCM} $ $ \frac{\frac{5}{6} X 6 + \frac{1}{3} X 6^{2}}{6} $ $ \frac{\frac{5}{6} \times 6 + \frac{1}{3} \times 6^{2}}{6} $ $ \frac{\frac{5+2}{6}}{6} $ $ = \frac{7}{6}  1 \text{ rem } 1 $		7 18 6		
OR $ \frac{\frac{5}{6} LCM + \frac{1}{3} X CM}{LCM} $ $ \frac{\frac{5}{6} X 6 + \frac{1}{3} X 6^{2}}{6} $ $ \frac{\frac{5}{6} \times 6 + \frac{1}{3} \times 6^{2}}{6} $ $ \frac{\frac{5+2}{6}}{6} $ $ = \frac{7}{6}  1 \text{ rem } 1 $		$= \frac{1}{6} \qquad \frac{5 \times 3 + 6 \times 1}{6 \times 3}  \frac{\cancel{2}}{\cancel{4}} $		
OR $ \frac{\frac{5}{6} LCM + \frac{1}{3} X CM}{LCM} $ $ \frac{\frac{5}{6} X 6 + \frac{1}{3} X 6^{2}}{6} $ $ \frac{\frac{5}{6} \times 6 + \frac{1}{3} \times 6^{2}}{6} $ $ \frac{\frac{5+2}{6}}{6} $ $ = \frac{7}{6}  1 \text{ rem } 1 $		$=1\frac{1}{15+6}$ 11 lrem1	Aı	for the correct response
OR $ \frac{\frac{5}{6} LCM + \frac{1}{3} X CM}{LCM} $ $ \frac{\frac{5}{6} X 6 + \frac{1}{3} X 6^{2}}{6} $ $ \frac{\frac{5}{6} \times 6 + \frac{1}{3} \times 6^{2}}{6} $ $ \frac{\frac{5+2}{6}}{6} $ $ = \frac{7}{6}  1 \text{ rem } 1 $		$\frac{1}{18}$		
$\frac{\frac{5}{6} \times 6 + \frac{1}{3} \times 6^{2}}{6}$ $\frac{5+2}{6}$ $= \frac{7}{6}  1 \text{ rem } 1$		OR		
$\frac{\frac{5}{6} \times 6 + \frac{1}{3} \times 6^{2}}{6}$ $\frac{5+2}{6}$ $= \frac{7}{6}  1 \text{ rem } 1$		$\frac{5}{6}$ LCM + $\frac{1}{3}$ X CM		
$\frac{\frac{5}{6} \times 6 + \frac{1}{3} \times 6^{2}}{6}$ $\frac{5+2}{6}$ $= \frac{7}{6}  1 \text{ rem } 1$		LCM		
$\frac{5+2}{6}$ = $\frac{7}{6}$ 1 rem 1		$\frac{5}{2}$ $\times$ $\times$ $+$ $\frac{1}{2}$ $\times$ $\times$ $\times$ $\times$ $\times$ $\times$ $\times$		
$\frac{5+2}{6}$ = $\frac{7}{6}$ 1 rem 1	/	$\left[\frac{6}{3}\right]$		
= <u>7</u> 1 rem 1				
= <u>7</u> 1 rem 1		<u>5 + 2</u>		
		= <u>/</u>   rem		
$=1\frac{1}{6}$				
		= 1-6		

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	$b(a^2 + c) = 3(-2^2 + 4)$	$M_1$	
		1011	for the correct substitution
	$3(-2^2+4)=3(4+4)$		
	= 3(8)		for the correct answer
	= 24	$A_1$	
5.	W = {c, o, m, p, a}	B <sub>1</sub>	for the intersection set.
	$M = \{m, o, p, e, l\}$		
	$W \cap M = \{m, o, p\}$	B <sub>1</sub>	for the subsets correctly
	{m, o, p}, {m, o}, {m, p}, {o, p}, {m}, {o}, {p}, { }		listed
6.	THOUSANDS UNITS	M <sub>1</sub>	for the correct working
	369 046		
	Three hundred sixty – nine thousand, forty – six	$A_1$	for the correct response
7.	1 dozen = 12 books		
	3 dozens = 12 x 3		
	= 36 books	B <sub>1</sub>	For no. of books in 3 dozen
	1 book costs sh. 400		
	36 books cost 400 x 36		For the cost of 36 books
	Sh. 14,400	B <sub>1</sub>	
8.			
9.	(PnR)' or P only	B <sub>2</sub>	
10.	$2r - 20^0 + 40^0 = 90^0$		
	$2r + 20^\circ = 90^\circ$		
	2r + 20 <sup>0</sup> - 20 <sup>0</sup> =90 <sup>0</sup> - 20 <sup>0</sup>	B <sub>1</sub>	For the value of r
	$\frac{2r}{2} = \frac{70}{10}$		
	2 2 <sub>1</sub>		
	$r = 35^{\circ}$	$B_1$	For the size of the bigger angle
	The larger angle is 90° – 40°		
	500		

11.	- 4 - (+5) = - 4 - 5	M <sub>1</sub>	
	= - 9	Aı	
12.	15, 16, 20, 24, 25, 33	M <sub>1</sub>	
	$\frac{20 + 24}{2} = \frac{44}{2}$ = 22	A <sub>1</sub>	
13.	Let one of the numbers be m the second no.		
	be $(7 - m)$ m - (7 - m) = 1 m - 7 + m = 1 2m - 7 = 1	B <sub>1</sub>	For the correct working and response
	2m - 7 + 7 = 1 + 7 $2m = 8 - 4$	B <sub>1</sub>	For the correct numbers.
14.	Perimeter = $\frac{1}{4}\Pi D + D$		
	$\frac{\frac{1}{4} \times \frac{22}{7} \times 28m + 28m}{22m + 28m}$	M <sub>1</sub>	For the correct working
	50m	Aı	
			For the correct response
15.	12 – 4 = 8	M <sub>1</sub>	For correctly carrying out
	8 + 2 = 10		the operations
	$10 \div 2 = 5$		
	Each pupil got 5 pens	Aı	For the correct response
16.	$     \begin{array}{c}                                     $	M <sub>1</sub>	For forming the correct equation
	r = 58 <sup>0</sup>	A <sub>1</sub>	For the correct response

17.	10,000m² = 1 hectare	M <sub>1</sub>	For the correct working
	5400m <sup>2</sup> = <u>5400</u>		
	100 <del>00</del> = 0.54 hectares	A <sub>1</sub>	For the correct response
	0.04 Neerares		
18.			For the minute hand
	11 12 1	B <sub>1</sub>	
	9 3		
	8 4	D	
	6 5	B <sub>1</sub>	For the hour hand slightly before 5
19.	Let the no. of litres be k.		501010 0
' ' '	$\frac{1}{3}k = 15$	M <sub>1</sub>	
	$K = 15 \times 3$	A <sub>1</sub>	
	K = 45 litres		
20.	Start 12 : 20pm = 12 20hours		
	End 4 : 30pm = 16 30hours		
	H Min	M <sub>1</sub>	
	16 30		
	- <u>12 20</u>		
	<u>4 10</u>		
	4 hours and 10 minutes.	A <sub>1</sub>	
	SECTION: P		
21a)	SECTION: B		
	12cm	M <sub>1</sub>	
	Р		

	$P^2 = 12^2 + 16^2$					
	P <sup>2</sup> = 144 + 256					
	$\sqrt{p^2} = \sqrt{400}$		A	1		
	P = 20cm					
b)	$\frac{1}{2}\pi D + 12cm + 16cr$	n				
	1.57 2x 3.14 x 20cm + 28		M	11		
	(31.4 + 28)cm	31.4cm				
	59.4cm <u>59.4cm</u>	+ <u>28.0cm</u>	A	1		
22a)	523.4 ÷ 10 = 52.3	4	М	11		
	52.34 ÷ 10 = 5.23	4				
	5.234 x 10 <sup>2</sup>		A	1		
b)	2 <sup>n</sup> x 8 = 64	2  64				
	$2^n \times 2^3 = 2^6$	2 32	M	11	For prime factorizing 64	
	$2^{n+3} = 2^6$	2 16			correctly	
	n + 3 = 6	2 8	M	1	For forming the correct	
	n + 3 - 3 = 6 - 3	$\frac{2}{2} \frac{3}{4}$			equation	
	n = 3	2 2	A	1	For the correct response	
22 \		=26			- " ( . 0)	
23a)		) =50	B <sub>1</sub>	l	For correctly entering (y+8)	
	n[M]	n(E) = 22	D.		For 14 correctly entered	
	(1)		Bı		For 14 correctly entered	
	\(\left(\frac{(\nabla + 8)}{\cdot \cdot \c		B <sub>1</sub>	l	For correctly entering y – 2	
		<u>Y - 2</u>				
	l					



b)	Y+8+8+14+y-2 = 50 $2y+16+14-2 = 50$ $2y + 28 = 50$	Bı	For correct working and value of y
	$2y+28-28 = 50-28$ $\frac{2y}{2-2} = \frac{22}{2-2}$	B <sub>1</sub>	For the correct response
	Y = 11		
	n(Mathematics) = 11 + 8 + 8		
	= 27		
24a)	Tuesday	B <sub>1</sub>	
b)	60+65+50+45+60	M <sub>1</sub>	For adding correctly
	5 - <u>280</u> 5	M <sub>1</sub>	For correctly dividing
	56	A <sub>1</sub>	For the correct answer
25a)	Fraction of boys $\frac{8}{8} - \frac{5}{8} = \frac{3}{8}$ Fraction of girls present $\frac{5}{5} - \frac{4}{5} = \frac{1}{5}$	B <sub>1</sub>	For the correct fraction of boys
	$ \frac{1}{5} \times \frac{5}{8} = \frac{1}{8} $ Total fraction present	B <sub>1</sub>	For the correct fraction of girls present
	$\frac{3}{8} - \frac{1}{8} = \frac{4}{8} \cdot \frac{1}{2}$ $= \frac{1}{2}$	Ві	For the total fraction present

<u>1</u> rep 200 2	1part = 200pupils 2parts = 2 x 200	M <sub>1</sub>		
<u>2</u> parts rep (200 x 2)	= 400pupils			
		Aı		
= 400 pupils				
6x+15 <sup>0</sup> +5x-10 <sup>0</sup> +4x10 <sup>0</sup>	+900 = 3600	M <sub>1</sub>	For forming the correct	
6x+5x+4x+90°+15°-	+100 = 3600		equation	
15x + 1	$05^{\circ} = 360^{\circ}$		_ ,, ,, ,,	
15x+105°-1	$05^{\circ} = 360^{\circ} - 105^{\circ}$	M <sub>1</sub>	For collecting like terms	
$\frac{1.5x}{1.5x} = \frac{2.550}{1.5x}$	17			
<del>15 15</del>				
$X = 17^{\circ}$		Aı	For the correct value of x	
Angle BCD		M <sub>1</sub>	For correct substitution and	
$180^{\circ} - (4x + 10^{\circ})$			subtraction	
180° – (4x17+10°)				
1800 – 780		Δ,	For the correct response	
1020		/ (1	To the concertesponse	
Cost of apples		Bı	For the correct cost of	
$2500 \times 6^2 = \text{sh. } 5,000$			apples	
3				
Sugar sh. 4500		B <sub>1</sub>	For the cost of sugar	
<u>X 3</u>				
Sh. <u>13,500</u>				
Total sh. 13500				
sh. 13000				
<u>+sh. 5000</u>		R,	For the correct total	
<u>sh. 31,500</u>		וטן	TO THE CORECT TOTAL	
	1_rep 200 2 2_parts rep (200 x 2) 2	2	1 rep 200       1 part = 200pupils 2 parts = 2 x 200       M1         2 parts rep (200 x 2)       = 400pupils       A1         6x+15°+5x-10°+4x10°+90° = 360°       M1         6x+5x+4x+90°+15°+10° = 360°       M1         15x + 105° = 360°       M1         41       M1         A1       M2         A2       M3         A3       M4         A4       M3         B4       M3         A4       M4         A5       M4         B5       M2         B6       M2         B7       M2         B8       M2         A5       M3         A6       M2         B7       M3         B8       M3         M4       M4         M5	1

c)	sh. 50,000	M <sub>1</sub>	For the correct working	
	<u>- sh. 31,500</u>			
	<u>sh. 18,500</u>	A <sub>1</sub>	For the correct response	
28a)	Let the smallest piece weigh 9kg the			
	lighter piece weigh (g+6)kg the heavier			
	piece weigh (g+2+6)kg.			
	But g+g+6+g+2+6 = 17	M <sub>1</sub>	For forming the correct	
	3g + 14 = 17		equation	
	3g + 14 - 14 = 17 - 14	M <sub>1</sub>	For collecting like terms	
	<u>3g</u> = <u>3</u> 3 3		correctly	
	g = 1kg	Aı	For the correct response	
	The smallest piece weighs 1kg		To the concertesponse	
b)	-3p < 12	M <sub>1</sub>	For change of sign and	
	<u>-3p&gt;12</u> -3 -3		dividing both sides by -3	
		A <sub>1</sub>		
	P > - 4		For the correct answer	
29	Sketch	$S_1$	For the correct sketch	
	4.8cm 5.1cm	L <sub>1</sub>	For AB	
	3cm B	L <sub>1</sub>	For BC	
	A 3.6cm B	L <sub>1</sub>	For CD	
		L <sub>1</sub>	For DA	

a)	$ \frac{2.2 \times 0.45}{0.5 \times 0.6} \\ \left(\frac{22}{10} \times \frac{45}{100}\right) \div \left(\frac{5}{10} \times \frac{6}{10}\right) $	M <sub>1</sub>	
	$\frac{22^{11}}{10} x \frac{15^{3}}{100} x \frac{10}{1} x \frac{10}{1} x \frac{10}{62} 1$	M <sub>1</sub>	
	<u>33    </u> = 3.3	A <sub>1</sub>	
b)	0.6	$M_1$	For the correct working
	$ \begin{array}{c} 5   30 \\ 6 \times 5 - 30 \\ \\ \frac{3}{7} = 0.6 \end{array} $	A <sub>1</sub>	For the correct answer
31a)	$\frac{5}{90 \text{km}} \times 3 \text{h} = 270 \text{km}$	B <sub>1</sub>	For 270km
	$\frac{70 \text{km x } 2\text{h}}{\text{-h}} = \frac{140 \text{km}}{\text{total } 410 \text{km}}$ $\frac{82}{-410} = 82 \text{km/h}$ $\frac{-5}{-5}$	B <sub>1</sub> B <sub>1</sub>	For 410km For the correct working and answer
b)	20km 1litre		
	1km $\frac{1}{20}$ litre 410 $\frac{1}{20}$ x 410 $\frac{1}{20}$	M <sub>1</sub>	For the correct works
	$20$ 410km requires $20\frac{1}{2}$ litres	A <sub>1</sub>	For the correct response
32a)	L x w x h = Volume $17 \times 6 \times k = 918$ 102k = 918	M <sub>1</sub>	For forming the correct equation
	$\frac{102}{K} = \frac{102}{1}$	M <sub>1</sub>	For dividing both sides by 102
	<u>Shaded part</u>	A <sub>1</sub>	For the correct value of k
	Area = 17cm x 9cm = 153cm <sup>2</sup>	M <sub>1</sub>	For the correct working
		Aı	For the correct answer

