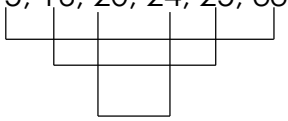
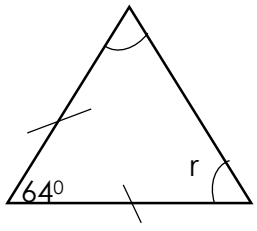
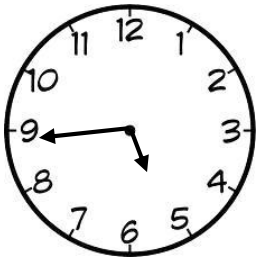
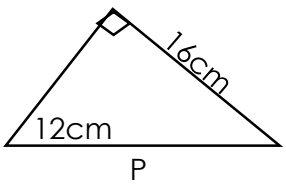
EAGLE EXAMINATIONBOARD

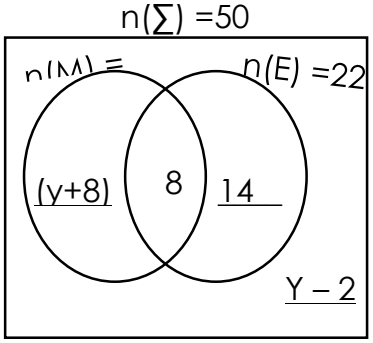
PRE-MOCK MATHEMATICS - MARKING GUIDE

1.	8m + n + m 8m + m + n 9m + n	B_2	for the correct response
2.	90 + 7 ↓ ↓ XC VII 97 = XCVII	M_1 A_1	for the correct working for the correct response
3.	$\frac{5}{6} + \frac{1}{3} = \frac{5+2}{6}$ **or** $\frac{5}{6} + \frac{1}{3}$ $\quad 21 \overline{)} 7$ $= \frac{7}{6}$ $\quad \frac{18}{3}$ 6 $= 1\frac{1}{6}$ $\quad \frac{5 \times 3 + 6 \times 1}{6 \times 3}$ $\quad \frac{7}{6}$ 1 $\frac{15 + 6}{18}$ $\quad 1$ 1rem1 $1\frac{1}{6}$ **OR** $\frac{\frac{5}{6} \text{ LCM} + \frac{1}{3} \text{ X CM}}{\text{LCM}}$ $\frac{\frac{5}{6} \text{X} \not{6} + \frac{1}{\not{3}} \text{X} \not{6}^{2}}{6}$ $\frac{5 + 2}{6}$ $= \frac{7}{6}$ 1 rem 1 $= 1\frac{1}{6}$	M_1 A_1	for the correct working for the correct response

4.	$b(a^2 + c) = 3(-2^2 + 4)$ $3(-2^2 + 4) = 3(4 + 4)$ $= 3(8)$ $= 24$	M_1 A_1	for the correct substitution for the correct answer
5.	W = {c, o, m, p, a} M = {m, o, p, e, l} W∩M = {m, o, p} {m, o, p}, {m, o}, {m, p}, {o, p}, {m}, {o}, {p}, { }	B_1 B_1	for the intersection set. for the subsets correctly listed
6.	THOUSANDS | UNITS 369 | 046 Three hundred sixty – nine thousand, forty – six	M_1 A_1	for the correct working for the correct response
7.	1 dozen = 12 books 3 dozens = 12 x 3 = 36 books 1 book costs sh. 400 36 books cost 400 x 36 Sh. 14,400	 B_1 B_1	 For no. of books in 3 dozen For the cost of 36 books
8.			
9.	(P∩R)′ or P only	B_2	
10.	$2r - 20^0 + 40^0 = 90^0$ $2r + 20^0 = 90^0$ $2r + 20^0 - 20^0 = 90^0 - 20^0$ $\frac{\cancel{2}r}{\cancel{2}_1} = \frac{\cancel{70}^{0}}{\cancel{2}_1}$ $r = 35^0$ The larger angle is $90^0 - 40^0$ 50^0	 B_1 B_1	 For the value of r For the size of the bigger angle

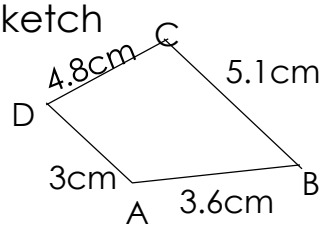
11.	- 4 – (+5) = - 4 – 5 = - 9	M_1 A_1	
12.	15, 16, 20, 24, 25, 33  $\frac{20 + 24}{2} = \frac{44}{2}$ = 22	M_1 A_1	
13.	Let one of the numbers be m the second no. be (7 – m) m – (7 – m) = 1 m – 7 + m = 1 2m – 7 = 1 2m – 7 + 7 = 1 + 7 $\frac{2m}{2} = \frac{8}{2}$ 4 22 m = 4. 7 – 4 = 3 The numbers are 3 and 4	B_1 B_1	For the correct working and response For the correct numbers.
14.	Perimeter = $\frac{1}{4}\Pi D + D$ $\frac{1}{4} \times \frac{22}{7} \times 28m + 28m$ 22m+ 28m 50m	M_1 A_1	For the correct working For the correct response
15.	12 – 4 = 8 8 + 2 = 10 10 ÷ 2 = 5 Each pupil got 5 pens	M_1 A_1	For correctly carrying out the operations For the correct response
16.	 $r + 64^0 = 180^0$ $2r + 64^0 = 180^0$ $2r + 64^0 – 64^0 = 180^0 – 64^0$ $\frac{2r}{2} = \frac{116^0}{2}$ $r = 58^0$	M_1 A_1	For forming the correct equation For the correct response

17.	$10,000m^2$ = 1 hectare $5400m^2 = \frac{5400}{10000}$ = 0.54 hectares	M_1 A_1	For the correct working For the correct response
18.		B_1 B_1	For the minute hand For the hour hand slightly before 5
19.	Let the no. of litres be k. $\frac{1}{3}$ k = 15 K = 15 x 3 K = 45 litres	M_1 A_1	
20.	Start 12 : 20pm = 12 20hours End 4 : 30pm = 16 30hours H Min 16 30 - 12 20 4 10 4 hours and 10 minutes.	M_1 A_1	
21a)	**SECTION: B** 	M_1	

	$P^2 = 12^2 + 16^2$ $P^2 = 144 + 256$ $\sqrt{p^2} = \sqrt{400}$ P = 20cm	 A_1	
b)	$\frac{1}{2}\pi D + 12cm + 16cm$ $\frac{1}{2}$x ~~3.14~~ 1.57 x 20cm + 28cm (31.4 + 28)cm 59.4cm 59.4cm 31.4cm + 28.0cm	M_1 A_1	
22a)	523.4 ÷ 10 = 52.34 52.34 ÷ 10 = 5.234 5.234 x 10^2	M_1 A_1	
b)	2^n x 8 = 64 2^n x $2^3 = 2^6$ $2^{n+3} = 2^6$ n + 3 = 6 n + 3 – 3 = 6 – 3 n = 3 2 | 64 2 | 32 2 | 16 2 | 8 2 | 4 2 | 2 $=2^6$	M_1 M_1 A_1	For prime factorizing 64 correctly For forming the correct equation For the correct response
23a)		B_1 B_1 B_1	For correctly entering (y+8) For 14 correctly entered For correctly entering y – 2

b)	Y+8+8+14+y-2 = 50 2y+16+14 – 2 = 50 2y + 28 = 50 2y+28 – 28 = 50 – 28 $\frac{2y}{2} = \frac{22}{2}$ (11) Y = 11 n(Mathematics) = 11 + 8 + 8 = 27	B_1 B_1	For correct working and value of y For the correct response
24a)	Tuesday	B_1	
b)	$\frac{60+65+50+45+60}{5}$ (56) $\frac{280}{5}$ (1) 56	M_1 M_1 A_1	For adding correctly For correctly dividing For the correct answer
25a)	Fraction of boys $\frac{8}{8} - \frac{5}{8} = \frac{3}{8}$ Fraction of girls present $\frac{5}{5} - \frac{4}{5} = \frac{1}{5}$ $\frac{1}{5} \times \frac{5}{8} = \frac{1}{8}$ Total fraction present $\frac{3}{8} - \frac{1}{8} = \frac{4}{8}$ (1, 2) $= \frac{1}{2}$	B_1 B_1 B_1	For the correct fraction of boys For the correct fraction of girls present For the total fraction present

b)	**OR** 1 rep 200 2 2 parts rep (200 x 2) 2 = 400 pupils 1part = 200pupils 2parts = 2 x 200 = 400pupils	M_1 A_1	
26a)	$6x+15^0+5x-10^0+4x10^0+90^0 = 360^0$ $6x+5x+4x+90^0+15^0+10^0 = 360^0$ $15x + 105^0 = 360^0$ $15x+105^0 – 105^0 = 360^0 - 105^0$ 17 ~~15~~x = ~~255~~^{0} ~~15 15~~ X = 17^0	M_1 M_1 A_1	For forming the correct equation For collecting like terms For the correct value of x
b)	Angle BCD $180^0 – (4x + 10^0)$ $180^0 – (4x17+10^0)$ $180^0 – 78^0$ 102^0	M_1 A_1	For correct substitution and subtraction For the correct response
27a)	Cost of apples 2500 x ~~6~~^{2} = sh. 5,000 ~~3~~	B_1	For the correct cost of apples
b)	Sugar sh. 4500 X 3 Sh. 13,500 Total sh. 13500 sh. 13000 +sh. 5000 sh. 31,500	B_1 B_1	For the cost of sugar For the correct total

c)	sh. 50,000 - sh. 31,500 sh. 18,500	M_1 A_1	For the correct working 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 3g +14 = 17 3g + 14 – 14 = 17 – 14 $\frac{3g}{3} = \frac{3}{3}$ g = 1kg The smallest piece weighs 1kg	 M_1 M_1 A_1	 For forming the correct equation For collecting like terms correctly For the correct response
b)	-3p < 12 $\frac{-3p}{-3} > \frac{12}{-3}$ P > - 4	M_1 A_1	For change of sign and dividing both sides by -3 For the correct answer
29	Sketch  	S_1 L_1 L_1 L_1 L_1	For the correct sketch For AB For BC For CD For DA

a)	$\frac{2.2 \times 0.45}{0.5 \times 0.6}$ $\left(\frac{22}{10} x \frac{45}{100}\right) \div \left(\frac{5}{10} x \frac{6}{10}\right)$ $\frac{22}{10} x \frac{45}{100} x \frac{10}{5} x \frac{10}{6}$ $\frac{33}{10} = 3.3$	M_1 M_1 A_1	
b)	$5\overline{)30}$ 0.6 6x5 -30 - - $\frac{3}{5} = 0.6$	M_1 A_1	For the correct working For the correct answer
31a)	90km x 3h = 270km h 70km x 2h = 140km h total 410km 410 = 82km/h 5	B_1 B_1 B_1	For 270km For 410km For the correct working and answer
b)	20km 1litre 1km $\frac{1}{20}$litre 410 1 x 410 20 410km requires $20\frac{1}{2}$ litres	M_1 A_1	For the correct works For the correct response
32a)	L x w x h = Volume 17 x 6 x k = 918 102k = 918 102 102 K = 9cm Shaded part Area = 17cm x 9cm = 153cm^2	M_1 M_1 A_1 M_1 A_1	For forming the correct equation For dividing both sides by 102 For the correct value of k For the correct working For the correct answer