Mark scheme

Area and perimeter

Mathematics 0580 · Questions from Paper 1, Paper 2, Paper 3 and Pape…

Total marks

34

MARKS FOR EACH QUESTION

1	2	3	4	5	6	7	8	9	10	Total
1	1	2	2	3	3	4	4	7	7	**34**

Question 1 **[1]**

1	12	**1**	

Question 2 **[1]**

2	24	**1**	

Question 3 **[2]**

3	6 nfww	**2**	**M1** for $\frac{1}{2}(4+10)h=42$ oe or better

Question 4 **[2]**

4	32	**2**	**M1** for $\frac{1}{2}\times 33\times h=528$ oe

Question 5 **[3]**

5	3.7[0] or 3.689 to 3.699…	**3**	**M2** for $\frac{19.02}{2+\pi}$ or **M1** for $2r+\pi r$ [=19.02] oe

STEM | Exam Builder

Question 6 **[3]**

6	109.2	**3**	**M2** for $7.8 \times 7.8 + 4 \times \frac{1}{2} \times 7.8 \times \frac{14-7.8}{2}$ oe or **M1** for 7.8×7.8 oe or $[\frac{1}{2}\times]$ 7.8 $\times \frac{14-7.8}{2}$ oe

Question 7 **[4]**

7	69.3 or 69.28…	**4**	**M2** for height = $\sqrt{8^2-4^2}$ or **M1** for $4^2 + h^2 = 8^2$ oe **and M1** for $\frac{1}{2}(8+12)\times$ *their* perp height oe

Question 8 **[4]**

8	**15.4** or 15.35 to 15.36	**4**	**M1** for $\frac{120}{360}\times\pi\times5^2$ oe **M1** for $\frac{1}{2}\times5^2\times\sin120$ oe **M1** for $\frac{120}{360}\times\pi\times5^2-\frac{1}{2}\times5^2\times\sin120$ oe

Question 9 **[7]**

9	1.38 or 1.39 or 1.384 to 1.389	**7**	**M3** [Area Δ =] $\frac{1}{2}\times8\cos 60\times8\sin 60$ or **M1** for [*AE* =] 8cos 60 and **M1** for [*ED*] = 8sin 60 and **M1** for Area sector $\frac{30}{360}\times\pi\times8^2$ and **M1** for Area rectangle = 8 × 8cos60 or 8 × 4 **M1** for *their* 32 – (*their* 13.86 + *their* 16.76) or better

STEM | Exam Builder

Question 10 **[7]**

10(a)	5.68 or 5.684 to 5.685	**5**	**M2** for $2x\sqrt{x^2+x^2}$ oe or $2\times\sqrt{2}\times x^2$ or **M1** for $x\sqrt{2}$ or $\sqrt{x^2+x^2}$ oe soi **M1** for $\frac{270}{360}\times\pi\times x^2$ oe **M1** for $0.5\ x^2$ oe
10(b)	4.4[0] or 4.398 to 4.401	**2**	**dep** on a correct value for k in **(a)** **M1** for $\left[x^2\right]=\frac{110}{their\ k}$

STEM | Exam Builder