

AQA, OCR, Edexcel

GCSE

GCSE Maths

Edexcel November 14 Paper 1

Name:

M

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Mathsmadeeasy.co.uk

Total Marks:

Edexcel Nov 14 Paper 1

1i. 3484

1ii. 34.84

1iii. 670

2. Maths : $\frac{32}{80} = \frac{4}{10} = 40\%$

English : 38%

$40\% > 38\%$ \therefore she did better in maths

3.

8	4	8	9						
9	0	0	1	1	2	3	5	7	8
10	2	3	6	8					
11	0	5							

key $8/4 = 84 \text{ cm}$

4. $T = 6x + 8y$

5a. $6y + 5 > 8 \quad (-5)$

$6y > 3 \quad (\div 6)$

$y > \frac{1}{2}$

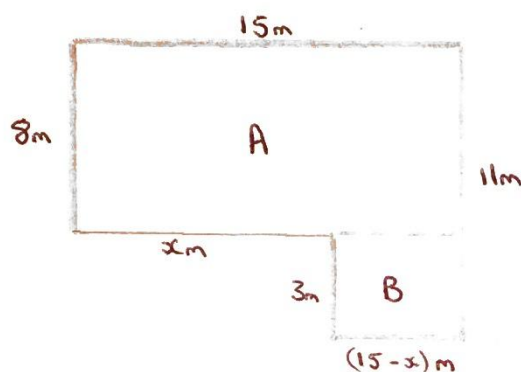
5b. $-3 < x \leq 4$

$$\begin{array}{r}
 554 \\
 \times 27 \\
 \hline
 3878 \\
 11080 \\
 \hline
 14958
 \end{array}$$

so $£5.54 \times 27 = £149.58$

$£149.58 < £150$ so Steve has enough money to buy the plants

7.



Area of A : $8 \times 15 = 120 \text{ m}^2$

Area of B : $3 \times (15-x) = (45 - 3x) \text{ m}^2$

Total Area : 138 m^2

$\therefore 120 + 45 - 3x = 138$

$165 - 3x = 138 \quad (-138)$

$3x = 27 \quad (\div 3)$

$x = 9 \text{ m}$

$$\begin{array}{r}
 165 \\
 - 138 \\
 \hline
 27
 \end{array}$$

8.

$\hat{BFG} = 65^\circ$ (alternate angles equal)

$\hat{FBG} = 65^\circ$ (base angles of isosceles triangle equal)

$\hat{FGB} = 180 - 65 - 65 = 50^\circ$ (angles in triangle sum to 180°)

$x = 180 - 50 = 130^\circ$ (angles on straight line sum to 180°)

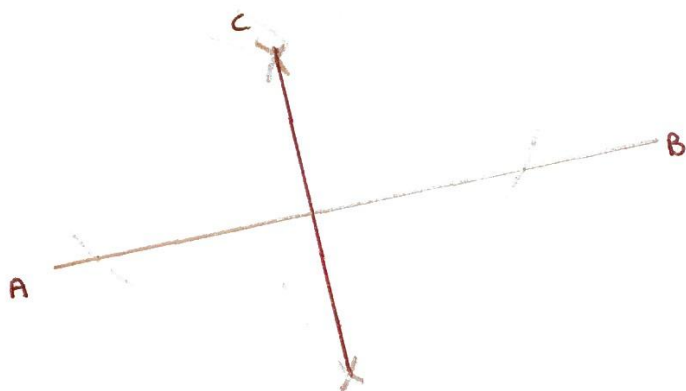
9a. Answer boxes not exhaustive (no 7+)

No units of distance e.g. miles

9b. How many times per week do you go shopping?

☐ never ☐ 1-2 ☐ 3-4 ☐ 5-6 ☐ 7+

10.



11.

$$10\% \text{ of } 7000 = 700$$

$$20\% \text{ of } 7000 = 1400$$

$$\text{So total cost} = £7000 + £1400 = £8400$$

$$£8400 - £3000 = £5400 \quad (\text{after } £3000 \text{ deposit})$$

$$£5400 \div 6 = \begin{array}{r} 900 \\ 6 \overline{) 5400} \end{array}$$

$$= £900 \text{ per month}$$

14. $4500 \div 75 = 6$ so she uses 6 times less water

so needs 6 times less remover $600 \div 6 = 100 \text{ ml}$

$\frac{1}{4}$ of 100 ml = 25 ml

15a. least = 60, range = 230 \Rightarrow highest = 290



15b. The median time of the boys is higher, meaning on average they spend more time on homework.

The spread of girls times is greater as they have a higher range.

16a. Plot (20, 25) (30, 70) (40, 138) (50, 175) (60, 186) (70, 194) (80, 200)

16b. From graph 10 people were older than 65.

$\frac{10}{200} = 5\%$ so Graham is incorrect.

18a. linear s.f. : $\frac{18}{12} = 1.5$

so ABCD is 1.5 times AEFG

$$5 \times 1.5 = 7.5 \text{ cm}$$

18b. area s.f. : 1.5^2

$$1.5 = \frac{3}{2}$$

$$1.5^2 = \left(\frac{3}{2}\right)^2 = \frac{9}{4}$$

Area of ABCD : $36 \times \frac{9}{4}$

$$\begin{array}{r} 36 \\ \times 9 \\ \hline 3254 \end{array}$$

$$4 \overline{) 324}$$

so $36 \times \frac{9}{4} = 81$

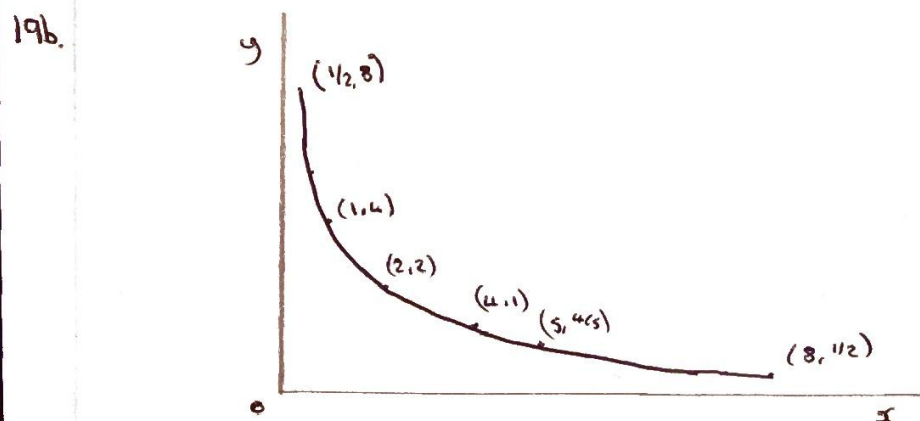
Shaded area = ABCD - AEFG

$$= 81 - 36$$

$$= 45 \text{ cm}^2$$

19a.

x	0.5	1	2	4	5	8
y	8	4	2	1	4/5	1/2



17

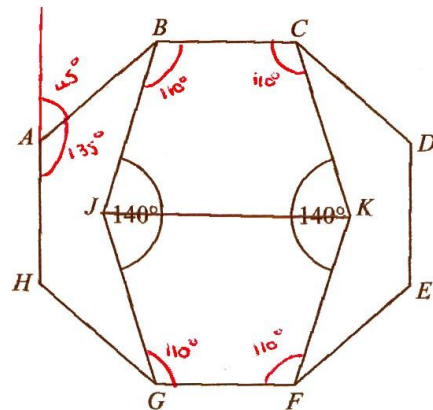


Diagram NOT
accurately drawn

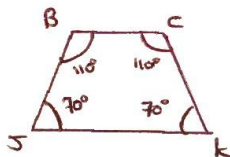
$ABCDEFGH$ is a regular octagon.
 $BCKFGJ$ is a hexagon.

JK is a line of symmetry of the hexagon.
Angle BJG = angle CKF = 140°

Work out the size of angle KFE .
You must show all your working.

$$\text{Exterior angle of octagon} = \frac{360}{8} = 45^\circ$$

$$\therefore \text{Interior angle} = 180 - 45 = 135^\circ$$



Quadrilateral \therefore sums to 360°

$$360 - 70 - 70 = 220$$

$$\frac{220}{2} = 110^\circ = B \text{ and } C = G \text{ and } F$$

$$\begin{aligned} \hat{KFE} &= \text{Interior angle} - \hat{KFG} \\ &= 135^\circ - 110^\circ \\ &= 25^\circ \end{aligned}$$

25°

(Total for Question 17 is 4 marks)

18



20.

$$SA \text{ of Sphere} = 4\pi r^2$$

$$SA \text{ of hemisphere} = 2\pi r^2$$

$$2\pi r^2 = 32\pi \quad (\div 2\pi)$$

$$r^2 = 16$$

$$r = 4$$

$$SA \text{ of cylinder} = \text{Circumference} \times \text{length} + \text{base}$$

$$\begin{aligned} \text{Total SA of shape} &= 8\pi \times 10 + 16\pi + 32\pi \\ &= 80\pi + 48\pi \\ &= 128\pi \end{aligned}$$

21.

$$(1+\sqrt{2})(3-\sqrt{2})$$

$$= 3 - \sqrt{2} + 3\sqrt{2} - 2$$

$$= 1 + 2\sqrt{2}$$

22a.

$$(3e)^0 = 1$$

22b.

$$\left(\frac{64x^6}{25y^2}\right)^{-\frac{1}{2}} = \left(\frac{25y^2}{64x^6}\right)^{\frac{1}{2}} = \frac{\sqrt{25y^2}}{\sqrt{64x^6}} = \frac{5y}{8x^3}$$

22c.

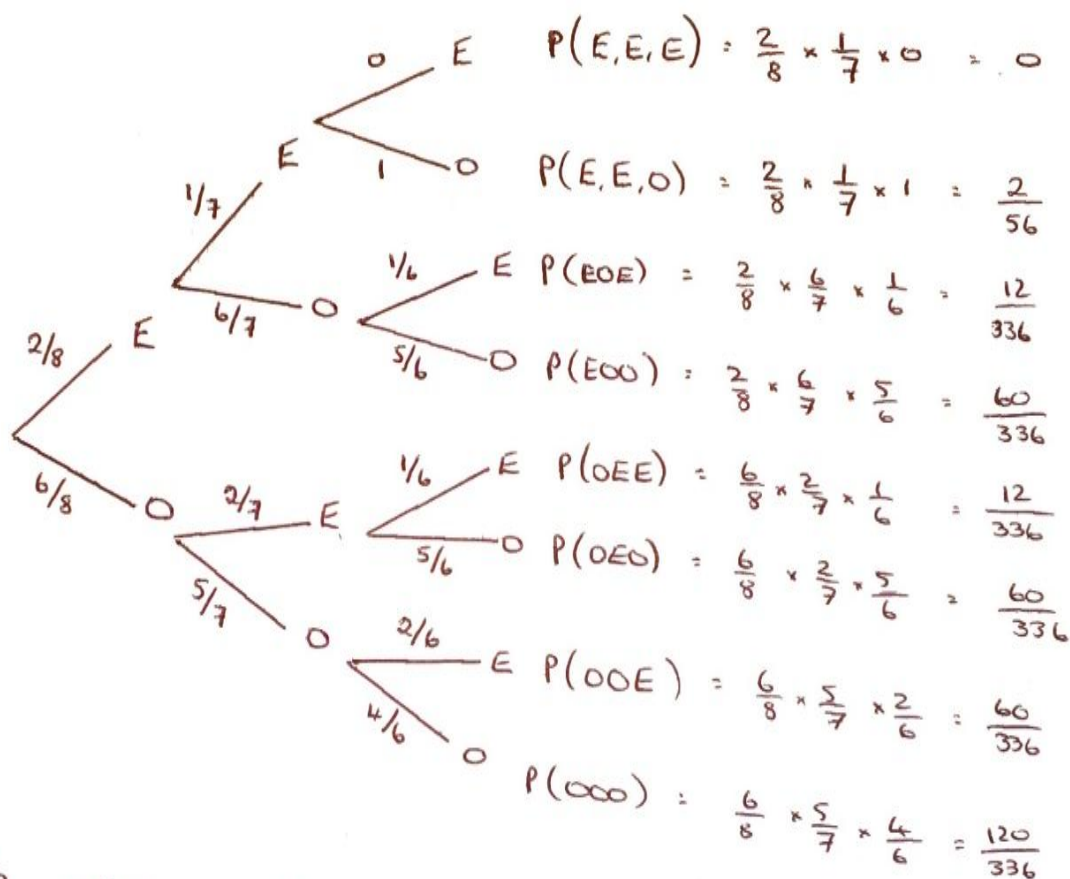
$$\frac{5}{x-3} - \frac{4}{x+3}$$

$$\frac{5(x+3) - 4(x-3)}{(x-3)(x+3)} = \frac{5x+15-4x+12}{(x-3)(x+3)}$$

$$= \frac{x+27}{(x-3)(x+3)}$$

23.

2 3 3 4 5 5 5 5



Ways of getting an odd :

$(O+O+O)$, $(O+E+E)$, $(E+E+O)$, $(E+O+E)$

$$= \frac{120}{336} + \frac{12}{336} + \frac{2}{56} + \frac{12}{336}$$

$$= \frac{120}{336} + \frac{12}{336} + \frac{12}{336} + \frac{12}{336}$$

$$= \frac{156}{336} = \left(\frac{13}{28} \right)$$

24.

$$A(1, 3) \quad B(4, -1)$$

$$2y = 3x - 4$$

$$y = \frac{3}{2}x - 2 \quad \therefore \text{grad} = \frac{3}{2}$$

$$\begin{aligned} \text{grad of } AB &= \frac{y_1 - y_2}{x_1 - x_2} \\ &= \frac{3 - (-1)}{1 - 4} \\ &= \frac{4}{-3} \end{aligned}$$

$$\text{if } \frac{1}{\text{grad of line}} \times \text{grad of } AB = -1$$

$$\frac{3}{2} \times -\frac{4}{3} = -\frac{12}{6} = -2 \neq -1$$

\therefore lines not perpendicular

25i.

$$f(x) \rightarrow f(x) + 3 \quad \text{translation 3 up} \quad \therefore (3, -1)$$

25ii.

$$f(x) \rightarrow f(2x) \quad \text{stretch s.f. } \frac{1}{2} \text{ in } x \quad \therefore (1.5, -4)$$

25iii.

$$f(x) \rightarrow f(-x) \quad \begin{array}{l} \text{stretch s.f. } -1 \text{ in } x \\ \text{or reflection in } y \text{ axis} \end{array} \quad (-3, -4)$$