

FOUNDATION GCSE NOVEMBER CALENDAR

30th NOVEMBER

a) $3 \div 16 = 0.1875$

b) $0.35 = \frac{35}{100} = \frac{7}{20}$

1st NOVEMBER

a) Prime: 2 or 19

b) Cube: 1, 8 or 125

c) Triangular: 1 or 6

d) Square: 1 or 9

2nd NOVEMBER

$$4x + 3 = 15$$

$$4x = 12 \quad x = 3$$

$$2y - 1 = 4y - 10$$

$$-1 = 2y - 10$$

$$9 = 2y \quad y = 4.5$$

$$\therefore \text{Length} = 15$$

$$\text{Width} = 2(4.5) - 1 = 8$$

$$\text{Area} = 15 \times 8 = 120 \text{ cm}^2$$

3rd NOVEMBER

$$(3.21 - 0.95)^3 + \sqrt[3]{7.86}$$
$$= 2.26^3 + \sqrt[3]{7.86}$$

↙ CUBE
ROOT!

a) 13.53144061 (FCD)

b) 13.531 (3dp)

c) 13.5 (3sf)

4th / 5th NOVEMBER

$$\frac{3}{4} + \left(\frac{1}{4} \text{ of } \frac{1}{4}\right) + \left(\frac{1}{4} \text{ of } \frac{1}{4} \text{ of } \frac{1}{4}\right)$$

$$\frac{3}{4} + \left(\frac{1}{4} \times \frac{1}{4}\right) + \left(\frac{1}{4} \times \frac{1}{4} \times \frac{1}{4}\right)$$

$$\frac{3}{4} + \frac{1}{16} + \frac{1}{64}$$

$$= \frac{48}{64} + \frac{4}{64} + \frac{1}{64} = \frac{53}{64}$$

6th NOVEMBER

$$4(3x+4) = 3(5x-2)$$

$$12x+16 = 15x-6$$

$$16 = 3x-6$$

$$22 = 3x$$

$$x = \frac{22}{3}$$

7th NOVEMBER

$$90\% \text{ of } 8600 = 7740$$

$$7740 \div 740 = 10.459 \text{ min.}$$

$$= 10 \text{ mins } 28 \text{ secs (nearest sec)}$$

8th NOVEMBER

$$2x+30 + x+16 + 3x-10 = 180$$

$$6x+36 = 180$$

$$6x = 144$$

$$x = 24$$

$$\text{Angles: } 2(24)+30 = 78^\circ$$

$$3(24)-10 = 62^\circ$$

$$24+16 = 40^\circ$$

$\therefore 78^\circ$ is largest.

9th NOVEMBER

$$\angle DCE = 58^\circ \text{ (Vertically Opposite Angles Equal)}$$

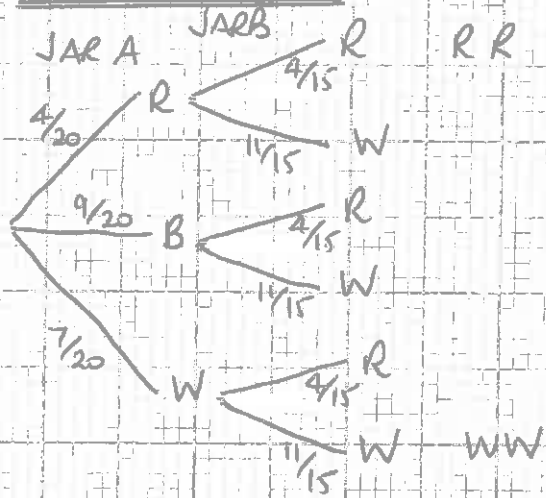
$$\angle CED = 180 - 58 - 64 = 58^\circ$$

(Three angles inside a triangle add to 180°)

2 of 3 angles are equal

\therefore CDE is isosceles.

10TH NOVEMBER



$$RR = \frac{4}{20} \times \frac{4}{15} = \frac{16}{300}$$

$$WW = \frac{7}{20} \times \frac{11}{15} = \frac{77}{300}$$

$$P(\text{Same Colour}) = \frac{93}{300}$$

11TH / 12TH NOVEMBER

Height	Mid Point	Frequency	MP x Freq
5		6	30
15		9	135
25		18	450
35		12	420
45		5	225
		<u>47</u>	<u>1260</u>

a) Modal Group = $20 < h \leq 30$ (Largest Frequency)

b) Median = 24th Height which is in the $20 < h \leq 30$ group.

c) Mean = $1260 \div 47 = 28.8 \text{ cm}$

13TH NOVEMBER

Cost per litre.

$$2l = \pounds 1.44 \div 2 = \pounds 0.72$$

$$2.5l = \pounds 1.65 \div 2.5 = \pounds 0.66$$

$$5l = \pounds 3.40 \div 5 = \pounds 0.68$$

$\therefore 2.5l$ is better value.

14TH NOVEMBER

$$r = \frac{m}{n} - ts$$

$$r + ts = \frac{m}{n}$$

$$n(r + ts) = m$$

$$(\text{or } nr + nts = m)$$

15TH NOVEMBER

Rachael Got 7 more parts than Wayne.

$$\therefore 1 \text{ part} = 28 \div 7 = 4$$

18 parts in total.

$$N^{\circ} \text{ of Sweets} = 18 \times 4 = 72$$

16TH NOVEMBER

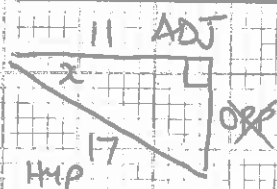
$$\text{London} = \pounds 1480$$

$$\text{Paris} = \pounds 1480 \div 1.34 = \pounds 1104.48$$

$$\text{New York} = \$ 2250 \div 1.52 = \pounds 1480.26$$

\therefore Cheaper in Paris.

17TH NOVEMBER



COSINE

$$\cos x = \frac{\text{ADJ}}{\text{HYP}}$$

$$\cos x = \frac{11}{17}$$

$$x = \cos^{-1}\left(\frac{11}{17}\right)$$

$$x = 49.7^{\circ}$$

18TH / 19TH NOVEMBER

$$\text{Litres of Oil (Petrol)} = 3000 \div 20 = 150$$

$$\text{Litres of Oil} = 150 \div 15 = 10$$

$$\text{Bottles Needed} = 10 \div 0.5 = 20$$

$$\text{Total Cost} = 20 \times \pounds 3.99 = \pounds 79.80$$

20TH NOVEMBER

$$\begin{aligned} \text{Exterior Angle} &= 180 - 165 \\ &= 15^\circ \end{aligned}$$

$$\text{Exterior Angle} = \frac{360}{\text{N}^\circ \text{ of Sides}}$$

$$\therefore \text{N}^\circ \text{ of Sides} = \frac{360}{15} = 24 \text{ sides}$$

NOVEMBER 22ND

$$a) 12x^3 - 8x = 4x(3x^2 - 2)$$

$$b) x^2 + 3x - 40 = (x+8)(x-5)$$

21ST NOVEMBER

$$\begin{aligned} a) 1\frac{1}{3} + 2\frac{3}{5} &= \frac{4}{3} + \frac{13}{5} \\ &= \frac{20}{15} + \frac{39}{15} = \frac{59}{15} \end{aligned}$$

$$b) 4\frac{1}{2} \times 3\frac{4}{7} = \frac{9}{2} \times \frac{25}{7} = \frac{225}{14}$$

NOVEMBER 23RD



$$\alpha^2 + 6^2 = 14^2$$

$$\alpha^2 = 196 - 36 = 160$$

$$\alpha = \sqrt{160}$$



$$x^2 = 8^2 + \sqrt{160}^2$$

$$x^2 = 64 + 160 = 224$$

$$x = \sqrt{224} = 14.97 \text{ cm}$$

NOVEMBER 24TH

$$\frac{2x-3}{5} + \frac{3x}{4} = 3$$

$$\frac{4(2x-3)}{20} + \frac{5(3x)}{20} = 3$$

$$8x + 12 + 15x = 60$$

$$23x - 12 = 60$$

$$23x = 72 \quad x = \frac{72}{23}$$

25TH/26TH NOVEMBER

$$\text{Packages : Parcels} \quad 40 \div 5 = 8$$

$$4 : 1$$

32 packages & 8 parcels.

$$\text{Weight of all Parcels} = 8 \times 1.5 = 12 \text{ kg}$$

$$\text{Weight of all Packages} = 37.6 - 12 = 25.6 \text{ kg}$$

$$\text{Each Package} = 25.6 \div 32 = 0.8 \text{ kg}$$

27TH NOVEMBER

$$a) 9n - 2$$

$$b) 9n - 2 = 241$$

$$9n = 243$$

$$n = \frac{243}{9} = 27$$

n is a whole no.
So it is in the
sequence. It is
the 27th term.

28TH NOVEMBER

$$\begin{aligned} \text{Total Score} &= 10 \times 17.3 \\ \text{after 10 Innings} &= 173 \text{ runs} \end{aligned}$$

$$\begin{aligned} \text{Total Score} &= 12 \times 21 \\ \text{after 12 Innings} &= 252 \text{ runs} \end{aligned}$$

$$\begin{aligned} \text{Runs in} & \\ \text{12TH Innings} &= 252 - 173 = 79 \\ &= 37 \text{ runs} \end{aligned}$$

29TH NOVEMBER

$$\begin{aligned} a) 5(2x+5) - 2(2x-3) \\ 10x + 25 - 4x + 6 \\ = 14x + 31 \end{aligned}$$

$$\begin{aligned} b) (x+9)(x-5) \\ x^2 - 5x + 9x - 45 = x^2 + 4x - 45 \end{aligned}$$

$$\begin{aligned} c) \frac{m^3 \times m^7}{m^{12}} &= \frac{m^{10}}{m^{12}} \\ &= m^{-2} \end{aligned}$$