

SEPTEMBER 2018 FOUNDATION PLUS TIER SOLUTIONS

1st/2nd

- (a) $x \leq 3$ (b) $4x - 2 > 2x - 7$ (c) -2, -1, 0, 1, 2, 3
 $2x - 2 > -7$
 $2x > -5$
 $x > -5/2$

3rd

- (a) 91, 518, 581, 725, 752, 901
 (b) 1.8999, 1.973, 1.98, 2.68, 2.7, 3
 (c) -2, -1.5, -1.48, -0.87, 0, 0.999, 1.1

4th

- (a) Circumference of wheel = $\pi \times 0.68 = 2.136m$ (or 213.6cm using 68cm)
 (b) Number of revolutions = $10000 \div 2.136 = 4681$ complete revolutions

5th

- (a) 2 or 5 (b) 2 or 5 or 10 (c) 27 (d) 10 (e) 64

6th

$\frac{1}{2} \times 16 \times \text{height} = 76$ $16 \times \text{height} = 152$ Height = 9.5cm

7th

- (a) $3x = 21$ (b) $\frac{x}{6} = 9$ (c) $4x - 5 = 39$
 $x = 7$ $x = 54$ $4x = 44$
 $x = 11$

8th/9th

Cost of 1 roll: 4 roll pack = $\pounds 1.89 \div 4 = 47.25p$

9 roll pack = $\pounds 3.99 \div 9 = 44.33p$

9 roll pack is better value – cheaper per roll

10th

- (a) $\pounds 250 \times 1.23 = \pounds 307.50$ (b) $\pounds 400 \times 0.81 = \pounds 324$ (c) $\frac{23}{40} \times 100 = 57.5\%$

11th

- (a) $56 \div 8 \times 3 = 21$ (b) $9 \times 4 = 36$ (c) $24 \div 2 \times 3 = 36$

12th

- (a) $7 + 12 = 19$ (b) $8 \times 7 - 9 = 56 - 9 = 47$ (c) i 3.216428571
 ii 3.22

13th

- (a) 50000 (b) 2.95 (c) 0.080 (d) 150000

14th

(a) 31, 35, 39

(b) $4n + 7$

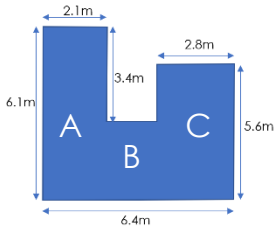
(c) $4n + 7 = 137$

$4n = 130$

$n = 32.5$

n must be an integer so 137 is not in the sequence

15th/16th



$A = 2.1 \times 6.1 = 12.81$

$B = 2.7 \times 1.5 = 4.05$

$C = 2.8 \times 5.6 = 15.68$

Total Area = $12.81 + 4.05 + 15.68 = 32.54\text{m}^2$

17th

(a) $6n - 7 = 41$

(b) $6n = 48, n = 8$

18th

Missing angle = $360 - 90 - 90 - 66 = 114^\circ$ so Jane is not correct

19th

(a) $30a^3b$

(b) $8(3x - 1)$

(c) $3x^2 - 2x$

20th

(a) $P(\text{red}) = 4/9$

(b) $P(\text{red or white}) = 7/9$

(c) $P(\text{not white}) = 6/9$

(d) $P(\text{blue}) = 0$

21st

Dimensions of rectangle are x and $x + 5$

Perimeter = $4x + 10$

Dimensions of triangle is $2x$

Perimeter = $6x$

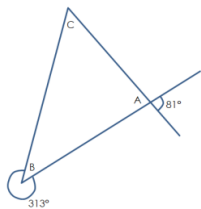
$4x + 10 = 6x$

$10 = 2x$

$x = 2\text{cm}$

Rectangle area = $2 \times 7 = 14\text{cm}^2$.

22nd/23rd



$A = 81^\circ$ Vertically opposite angles are equal

$B = 47^\circ$ Angles at a point add up to 360°

$C = 180 - 81 - 47 = 52^\circ$ Three internal angles of a triangle add to 180° .

24th

(a) $400 \times 22 = 8800$ pesos

(b) $1105 \div 19.5 = \pounds 56.67$

25th

Granary = 20% of 160 loaves = 32 loaves

White = $\pounds 74.80 \div \pounds 1.10 = 68$ loaves

Wholemeal = $160 - 32 - 68 = 60$ loaves

Total = $(\pounds 1.20 \times 32) + \pounds 74.80 + (\pounds 1.15 \times 60) = \pounds 182.20$

26th

3 parts = $\pounds 132 = \pounds 44$

Adam = $7 \times \pounds 44 = \pounds 308$ Belinda = $3 \times \pounds 44 = \pounds 132$ Chris = $6 \times \pounds 44 = \pounds 264$

27th

$$\begin{array}{r} 3 6 8 \\ \times 4 8 \\ \hline 2 9 4 4 \\ 1 4 7 2 0 \\ \hline 1 7 6 6 4 \end{array}$$

28th

(a) $1.1 \times 1.2 \times 0.8 = 1.056\text{m}^3$

(b) $110 \times 120 \times 80 = 1056000\text{cm}^3$

29th/30th

	BBC	ITV	Ch 4	Ch 5	SKY	TOTAL
Under 16	45	74	32	17	127	295
Over 16	128	86	31	20	113	378
TOTAL	173	160	63	37	240	673