

ANSWER KEY

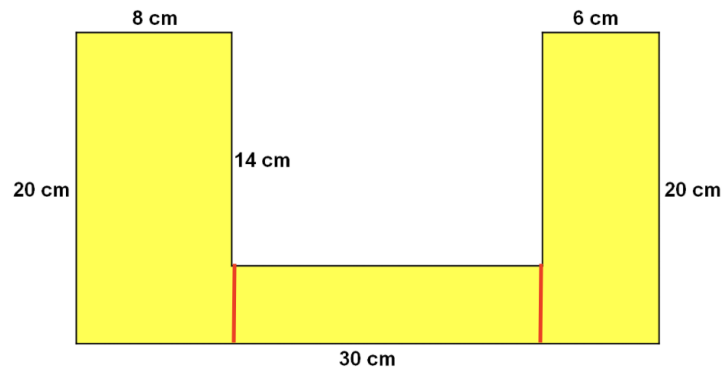
QUESTION	CORRECT ANSWER
1	B thin sheet = 0.00001 make plastic coating 0.1 thick $0.1 / 0.00001 = \mathbf{10\ 000\ sheets}$
2	D 20 cents per km = petrol spent \$14.40 $14.4 / .20 = \mathbf{72\ km}$
3	C Trolls: Ogres = 5:4 Add the ratio Choice that is not divisible by 9 is the answer $620/9 = 68.8889$ therefore the answer is 620
4	C 15 neck ties = 40% are red $15 (0.4) = 6 \leftarrow \text{red}$ $15 - 6 = \mathbf{9\ neckties}$
5	D microwave = \$370 20% off \$26 rebate $370 - 20\% = \$296$ $296 - 26 = \mathbf{\$ 270}$

6	C 7 floors up 10 floors down 5 floors up Xth floor up = + down = - $X + 7 - 10 + 5$ = X + 2
7	B 400 books 30% hardbound of those $\frac{1}{3}$ is history books Non Hardbound history = 2 Hardbound history $400(0.3) = 120$ hard bound books $120 (\frac{1}{3}) = 24$ hardbound history books $24 \times 2 = \mathbf{48}$ non hardbound history books
8	A 10 times per 4 seconds 6 mins = ? $10/4$ per sec $6 \times 60 = 360$ secs $(10/4) \times 360 = \mathbf{900}$ beats
9	C old machine = 8000 copies in 2 hours ← get per hour $8000/2 = 4000$ copies per hour new machine = $4000 + (4000)(0.5) = 6000$ copies per hour $8000/6000 = 1.333$ hours $1.333 \times 60 = \mathbf{80}$ mins
10	B 10 identical reactors = 450 megawatts / min $450/10 = 45$ megawatts/min each 6 reactors for 4 mins = ?? $45 \times 6 \times 4 = \mathbf{1080}$ megawatts

11	B $\frac{1}{2}$ red $\frac{1}{6}$ blue $\frac{1}{10}$ green 250 remaining $\leftarrow \frac{1}{5}$ total = ? $\frac{1}{2} + \frac{1}{6} + \frac{1}{10} = \frac{4}{6}$ $\frac{1}{5} = 250/X$ X = 1250 marbles
12	E 700 clay pots andy = 25% 5 members = share the rest $700 - 700(0.25) = 525$ pots $525/5 = 105$ clay pots

C

cut shape into 3



$$A1 = 20 \times 8 = 160 \text{ cm}^2$$

$$A2 = 6 \times 16 = 96 \text{ cm}^2$$

$$A3 = 6 \times 20 = 120 \text{ cm}^2$$

$$A_t = 160 + 96 + 120 = \mathbf{376 \text{ cm}^2}$$

13

14	D Given: $P + Q/2 = 50$ $Q + R/2 = 75$ $R - P = ?$ Solution: $P + Q = 50 + 50 = 100$ $Q + R = 75 + 75 = 150$ $(Q + R) - (P - Q) = Q + R - P - Q = R - P$ $(Q + R) - (P - Q) = 150 - 100 = 50$ $R - P = \mathbf{50}$
15	D Let original price = \$x Buying price = $\\$x(1-20\%) = 0.8x$ $x+600 = 0.8x(1+50\%)$ $x + 600 = 1.2x$ $600 = 0.2x$ $x = 600/0.2$ $x = \mathbf{\\$3000}$
16	A Given: Andrew = 2 (Ben) David = $2(\text{Ben} + \text{Andrew}) - 100$ David give 150 to ben and 50 to andrew $\text{Ben} + 150 = \text{Andrew} + 50 = \text{David} / 2$ Therefore $\text{Ben} + 150 = \text{David}/2$ $\text{Andrew} + 50 = \text{David} / 2$ Solution: Let Andrew = A , Ben = B, David = D $D = 2 (B + A) - 100 \leftarrow \mathbf{A = 2B}$ $D = 2(B + 2B) - 100$ $D = 6B - 100 \leftarrow \mathbf{D/2 = B + 150}$ or $\mathbf{D = (B + 150) (2)}$ $(B + 150)(2) = (6B - 100)$ $(B + 150) = (6B - 100)/2$ $B + 150 = 3B - 50$ $2B = 200$ $B = \mathbf{100 \text{ stamps}}$

17	C Get LCM $10 = 5 \times 2$ $12 = 2 \times 2 \times 3 = 2^2 \times 3$ $16 = 2 \times 2 \times 2 \times 2 = 2^4$ $5 \times 2^4 \times 3 = \mathbf{240 \text{ marbles}}$
18	C $\frac{3}{4}$ girls $\frac{1}{3}$ of girls have blue eyes assume total is 100 $\frac{3}{4} (100) = 75$ $\frac{1}{3} (75) = 25$ Girls without blue eyes = $75 - 25 = 50$ Fraction for girls without blue eyes = $50/100 = \mathbf{1/2}$
19	A 10:13:13 small / total = $X / 180$ $10/36 = X/180$ $X = \mathbf{50 \text{ degree}}$
20	B 15:85 ← divided by 5 3:17 ← can form 5 groups using this ratio 5 groups
21	D $V = 2 \text{ m}^3$ $L = 4\text{m}$ $W = \frac{1}{4} \text{ m}$ $H = ?$ $4 \times \frac{1}{4} \times H = 2$ H = 2 m

22	C isosceles = 2 sides are equal it can be 6 or 9 P if 6 $P = 6+6+9 = 21$ P if 9 $P = 9+9+6 = 24$ therefore C. is the answer it can be 21 or 24
23	D X = Price of jet ski bought 25% off = \$21 000 $X - X(0.25) = 21\ 000$ X = \$28 000
24	B Box M = 450 + Box N Box M - 100 = Box N (2) + 100 Box M = ?? Let Box M = M , Box N =N $450 + N = 2N + 200$ N = 250 M = 450 + 250 = 700 M current = 700 - 100 = 600 grams
25	B A. 19 ← 5 + 5 + 9 B. 22 ← cannot be C. 23 ← 9 + 9 + 5 D. 24 ← 5 + 5 + 5 + 9 E. 28 ← 9 + 9 + 5 + 5 Therefore the answer is 22
26	E 1:7 = x°: y° ← total angle is 180 7:8 = $y^\circ/180$ $y^\circ = \mathbf{157.5\ degree}$

27	C 96/ 100 million 3 billion = ? $96/100 \text{ M} = X / 3 \text{ B}$ $X = \mathbf{2880 \text{ bacteria}}$
28	B won 40 % of the first 25 games won 80% on remaining $0.40 (25) + 0.8(X - 25) = 0.6(X)$ $X = \mathbf{50 \text{ games}}$
29	E Boardwalk = 1 200 m ² paint = 450 m ² / 2 L $1200 / 450 = 2.6666 \text{ set}$ $2.6666 \times 2 = 5.333 \text{ L or } 6 \text{ L} \leftarrow \text{round up to have enough paint}$
30	C W = 8 m A Carrot = A cabbage = 4 x 24 = 96 m ² $96 = 8 \times L$ $L = 12$ $P = 2(12) + 2 (8) = \mathbf{40 \text{ m}}$