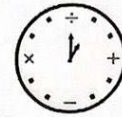


QT Quick Test 4D

Calculator



1. Cas bought a house for £280000.
In the first year the house price increased by 4%.
In the second year the house decreased by 2%.
In the third year the house increased by 5%.

Work out the value of the house at the end of 3 years.

(3 marks)

$$280,000 \times 1.04 \times 0.98 \times 1.05$$
$$\underline{\underline{£299,644.40}}$$

2. (a) Simplify $(x^2)^4$

$$x^8$$

(1 mark)

- (b) Simplify $18x^2y^5 \div 3xy^2$

$$\frac{6 \cancel{18} x^{\cancel{2}} y^{\cancel{5}}}{\cancel{1} \cancel{3} x^{\cancel{1}} y^{\cancel{2}}} = \underline{\underline{6xy^3}}$$

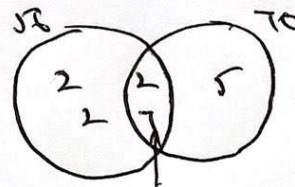
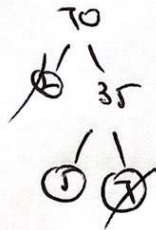
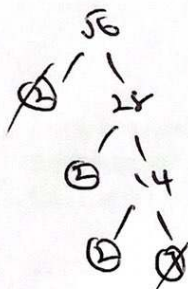
(2 marks)

3. (a) Find the highest common factor (HCF) of 56 and 70

(2 marks)

- (b) Find the lowest common multiple (LCM) of 56 and 70

(2 marks)

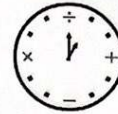


$$\text{HCF} = 2 \times 7 = 14$$

$$\text{LCM} = 14 \times 2 \times 2 \times 5 = 280$$

QT Quick Test 4D

Calculator



4. Si is going to play one tennis match and one badminton match.

The probability that he will win the tennis match is $\frac{4}{7}$.

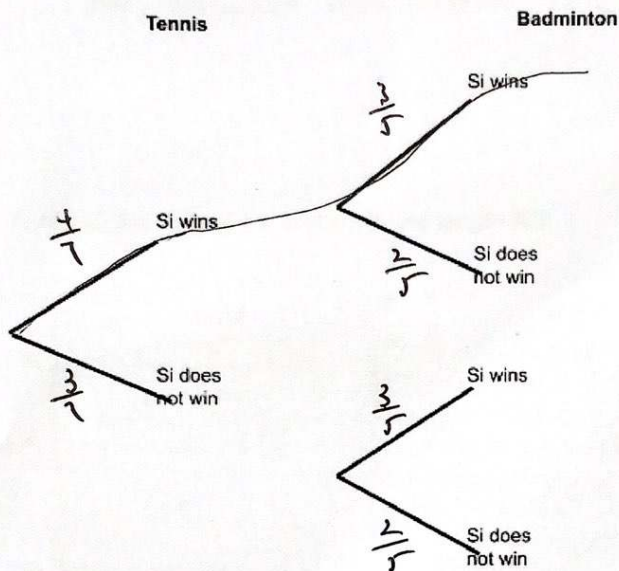
The probability that he will win the badminton match is $\frac{3}{5}$.

(a) Complete the probability tree diagram

(2 marks)

(b) Work out the probability that Si will win both matches.

(2 marks)



ww $\frac{4}{7} \times \frac{3}{5} = \frac{12}{35}$

5. Aishu has some sweets.

Brian has twice as many sweets as Aishu.

Cas has 5 more sweets than Brian.

In total they have 65 sweets. How many sweets does Cas have?

(3 marks)

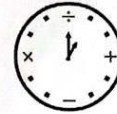


$$\begin{aligned} 7x + 5 &= 65 \\ 7x &= 60 \\ x &= 12 \end{aligned}$$

Cas = 29

QT Quick Test 4D

Calculator



6. Here are the first five terms of a sequence.

32 28 24 20 16 12 8 4 0 -4

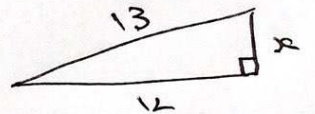
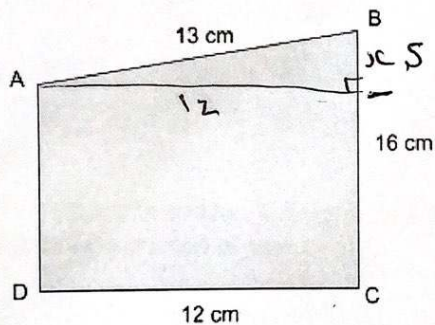
$\underbrace{\quad -4 \quad}$ $\underbrace{\quad -4 \quad}$ $\underbrace{\quad -4 \quad}$ $\underbrace{\quad -4 \quad}$

(a) Find the first negative term in the sequence -4 (1 mark)

(b) Is -27 a term in the sequence? Give a reason for your answer. (1 mark)

No, because all terms are even

7. ABCD is a trapezium. Calculate the length AD. (3 marks)



$$13^2 = 12^2 + x^2$$

$$169 = 144 + x^2$$

$$25 = x^2$$

$$5 = x$$

$$\therefore AD = \underline{\underline{11 \text{ cm}}}$$

8.5

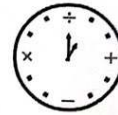
8. A circle has a diameter of 17cm. Work out the area of the circle. Give your answer correct to 1 decimal place. (2 marks)

$$\begin{aligned}
 \text{Area} &= \pi r^2 \\
 &= \pi (8.5)^2 \\
 &= 226.9800692
 \end{aligned}$$

$$227.0 \text{ cm}^2$$

QT Quick Test 4D

Calculator



9. (a) y is an integer such that $-4 \leq y \leq 3$. Write down all the possible values of y .

$-4 \quad -3 \quad -2 \quad -1 \quad 0 \quad 1 \quad 2 \quad 3$

(2 marks)

(b) Solve $4x + 7 \leq x + 22$

(2 marks)

$$\begin{array}{rcl}
 -x & & -x \\
 3x + 7 & \leq & 22 \\
 -7 & & -7 \\
 \hline
 3x & \leq & 15 \\
 \div 3 & & \div 3 \\
 x & \leq & 5
 \end{array}$$

10. The total surface area of a cube is 294 cm^2 . Work out the volume of the cube.

(3 marks)



$$\frac{294}{6} = 49$$

$$\begin{aligned}
 \text{Volume} &= 7 \times 7 \times 7 \\
 &= \underline{\underline{343 \text{ cm}^3}}
 \end{aligned}$$

11. A piece of wood has a mass of 18.5 grams and a volume of 20 cm^3 . Work out the density of the piece of wood in grams / cm^3 .

(3 marks)

$$\text{Density} = \frac{\text{Mass}}{\text{Volume}} = \frac{18.5}{20} = \underline{\underline{0.925 \text{ g/cm}^3}}$$

12. Julie drove 50 miles in 50 minutes. What speed was Julie driving? Give your answer in miles per hour.

(2 marks)

$$\begin{array}{l}
 \text{Miles} \quad \text{Miles} \\
 50 \quad : \quad 50 \\
 \div 50 \quad (\quad : \quad) \div 50 \\
 1 \quad : \quad 1 \\
 \times 60 \quad (\quad : \quad) \times 60 \\
 60 \quad : \quad 60
 \end{array}$$

60 mph

(/ 36 marks)