



Age 11+ Level ★
Worksheet 1 - Solutions

1. Shape Sums

6 Δ are equal to \diamond

rich.maths.org/11632/solution

2. Partial Magic

$x = 21$

rich.maths.org/2207/solution

18			
13	15		
	10	11	17
	x	16	14

3. Seven Dwarfs

The ages of the oldest three add up to 54

rich.maths.org/6770/solution

4. Five-to

The smallest integer is 399

rich.maths.org/10170/solution

5. Interstellar

19 (c) could replace x

rich.maths.org/2449/solution

6. Luis' Eight

The sum of the three largest numbers is 48

rich.maths.org/11612/solution

These problems are adapted from UKMT (ukmt.org.uk) and WMC (competition.ac) problems.



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Worksheet 1 - Solutions

1. Symbol

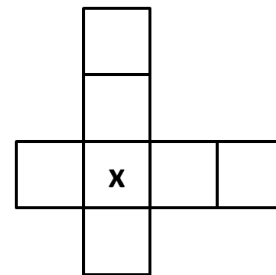
$$x = 7$$

rich.maths.org/7149/solution

2. Crossover

7 should replace x

rich.maths.org/11686/solution



3. Geometric Quadrilateral

The smallest interior angle is 24°

rich.maths.org/11728/solution

4. Multiplication Mistake

She multiplied 54 by 22

rich.maths.org/12792/solution

5. Fifty Coins

There are 4 more 5p coins than 2p coins

rich.maths.org/10146/solution

6. Turnips

He could afford 16 turnips

rich.maths.org/2051/solution

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Age 14+ Level ★
Worksheet 1 - Solutions

1. Adjacent Additions

All seven digits add up to 25

rich.maths.org/10151/solution

2. In the Hundreds

There are 150 possible values of n

rich.maths.org/10169/solution

3. Weighing the Baby

The weight of the baby was 5kg

rich.maths.org/10098/solution

4. I Love Musical Stars

The value of ♥ is 3

rich.maths.org/10190/solution

5. Bat and Ball

A bat costs £60

rich.maths.org/12563/solution

6. Pure Algebra

The product $ab = 11.25$

rich.maths.org/12549/solution

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Worksheet 1 - Solutions

1. Simultaneous Multiplying

The value of $a + b + c = 10\frac{1}{2}$

rich.maths.org/5027/solution

2. Well Read

There are 7 girls in the class

rich.maths.org/10196/solution

3. Square to a Rectangle

He made a 10 tiles by 17 tiles rectangle

rich.maths.org/12813/solution

4. Black and White Socks

$n = 5$

rich.maths.org/12925/solution

5. Table Height

The table is 90cm high

rich.maths.org/4884/solution

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Worksheet 2 - Solutions

1. Traffic Tunnel

None will fit through the tunnel

rich.maths.org/13209/solution

2. Relative Angles

Angle B is 60°

rich.maths.org/12612/solution

3. Thousands of X

$x = 2012$

rich.maths.org/13039/solution

4. Average Surroundings

Ali is 38 years old

rich.maths.org/6245/solution

5. Tennis Training

Andy collected 16 tennis balls

rich.maths.org/11722/solution

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Worksheet 3 - Solutions

1. Alien Currency

They are worth 19 zogs

rich.maths.org/10118/solution

2. Fractions of Fractions

$$\frac{X}{Y} = \frac{27}{25}$$

rich.maths.org/2878/solution

3. Packing Boxes

Christine packs $7\frac{1}{2}$ boxes in one hour

rich.maths.org/7179/solution

4. Monetary Difference

The difference is £30

rich.maths.org/5703/solution

5. Big Fish

The whole fish weighed 54kg

rich.maths.org/5024/solution

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Worksheet 4 - Solutions

1. Sum = Product = Quotient

There is a unique pair ($a = \frac{1}{2}$ and $b = -1$)

rich.maths.org/6772/solution

2. Near 10

There are 39 numbers

rich.maths.org/7151/solution

3. Weighing Scales

2 spheres

rich.maths.org/6201/solution

4. Day of the Triffids

Jasmine bought 1 triffid

rich.maths.org/2833/solution

5. Algebraic Differences

$x - y = 1$

rich.maths.org/10138/solution

6. Oldest and Youngest

The youngest child is 24 months old (or 2 years old)

rich.maths.org/11702/solution

These problems are adapted from UKMT (ukmt.org.uk) and WMC (competition.ac) problems.