

Foundation Check In - 1.04 Inverse operations

Fill in the missing values.

1. $\square^2 = 64$

2. $\frac{\square}{3} + 7 = 13$

3. $\square \div -6 = -6$

4. $(7 - \square)^2 = 100$

5. Find the reciprocal of 0.8.

6. Jai thinks of a number. He multiplies it by 6 and finds the square root of the answer. Explain how you would find the number Jai thought of.

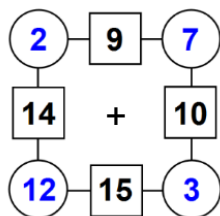
7. Given that $x^3 = 4913$, show that $x^2 = 289$.

8. Asher says that if $\sqrt{x} = 400$ then $x = 800$. What mistake has Asher made?

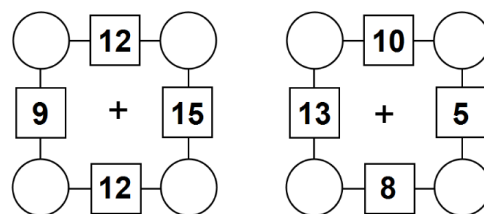
9. A triangle has an area of 96 cm^2 and a height of 8 cm. How long is the base of the triangle?

10. Material costs $\text{£}12.50$ per square metre. Asif pays $\text{£}75$ for a piece of material 1.5 m wide. How long is the piece of material Asif buys?

Extension



This is an arithmagon.
The numbers in the square boxes are made by adding the numbers in the circles on either side.



These are also arithmagons.
Can you work out what numbers could go in the blank circles?
Can you find different solutions?
Make some of your own arithmagons.

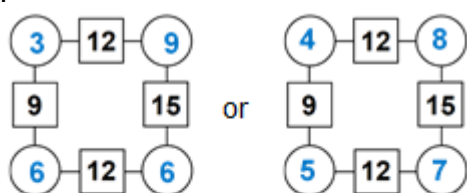
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Answers

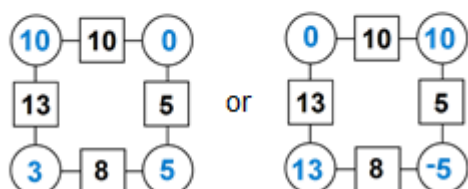
1. ± 8
2. 18
3. 36
4. -3
5. 1.25
6. You would square the answer and then divide by 6
7. $\sqrt[3]{4913} = 17$, $17^2 = 289$
8. Asher has doubled x instead of squaring it
9. Area = $\frac{1}{2} \times \text{base} \times \text{height}$, so base = $\frac{2 \times \text{area}}{\text{height}} = \frac{2 \times 96}{8} = 24$ cm
10. $\left(\frac{75}{12.5}\right) \div 1.5 = 4$ m long

Extension

E.g.



E.g.



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Assessment Objective	Qu.	Topic	R	A	G
AO1	1	Solve single step equation by finding square root			
AO1	2	Solve two step equation using inverse operations			
AO1	3	Use inverse operations involving negative numbers			
AO1	4	Use two step inverse operations involving negative numbers			
AO1	5	Find a reciprocal			
AO2	6	Communicate solution involving inverse operations			
AO2	7	Reason using inverse operations to achieve a given result			
AO2	8	Assess validity of statement involving inverse operations			
AO3	9	Solve geometric problem using inverse operations			
AO3	10	Solve a problem in context using inverse operations			

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