



# Geometric completion of the square

## PRACTICE WORKSHEET

12 exercises | A4 | 1 / 2

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Show your working in the blank space or on separate paper. Sketch labelled rods/beads when asked to represent a number.

**1** Solve  $x^2 + 10x = 39$  for the positive length  $x$ .

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**2** Solve  $x^2 + 10x = 96$  for the positive length  $x$ .

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**3** Solve  $x^2 + 10x = 39$  for the positive length  $x$ .

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**4** Solve  $x^2 + 10x = 144$  for the positive length  $x$ .

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**5** Solve  $x^2 + 10x = 75$  for the positive length  $x$ .

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**6** Solve  $x^2 + 10x = 24$  for the positive length  $x$ .

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**7** Solve  $x^2 + 10x = 119$  for the positive length  $x$ .

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**8** Solve  $x^2 + 10x = 56$  for the positive length  $x$ .

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**9** Solve  $x^2 + 16x = 225$  for the positive length  $x$ .

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**10** Solve  $x^2 + 16x = 132$  for the positive length  $x$ .

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**11** Solve  $x^2 + 16x = 57$  for the positive length  $x$ .

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**12** Solve  $x^2 + 16x = 192$  for the positive length  $x$ .

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Practise interactively and explore the method:

<https://goofergames.com/math/world/completing-square>



# Geometric completion of the square

## ANSWER KEY

12 exercises | A4 | 2 / 2

Use after completing the practice page. Values are generated by the page's shared engine.

Equivalent exact representations are valid where the prompt allows them. Non-integer results are rounded to two decimals.

**1 Answer: 3**

Missing corner area: 25; Completed square area: 64;  
Completed square side: 8; Positive length  $x$ : 3

**2 Answer: 6**

Missing corner area: 25; Completed square area: 121;  
Completed square side: 11; Positive length  $x$ : 6

**3 Answer: 3**

Missing corner area: 25; Completed square area: 64;  
Completed square side: 8; Positive length  $x$ : 3

**4 Answer: 8**

Missing corner area: 25; Completed square area: 169;  
Completed square side: 13; Positive length  $x$ : 8

**5 Answer: 5**

Missing corner area: 25; Completed square area: 100;  
Completed square side: 10; Positive length  $x$ : 5

**6 Answer: 2**

Missing corner area: 25; Completed square area: 49;  
Completed square side: 7; Positive length  $x$ : 2

**7 Answer: 7**

Missing corner area: 25; Completed square area: 144;  
Completed square side: 12; Positive length  $x$ : 7

**8 Answer: 4**

Missing corner area: 25; Completed square area: 81;  
Completed square side: 9; Positive length  $x$ : 4

**9 Answer: 9**

Missing corner area: 64; Completed square area: 289;  
Completed square side: 17; Positive length  $x$ : 9

**10 Answer: 6**

Missing corner area: 64; Completed square area: 196;  
Completed square side: 14; Positive length  $x$ : 6

**11 Answer: 3**

Missing corner area: 64; Completed square area: 121;  
Completed square side: 11; Positive length  $x$ : 3

**12 Answer: 8**

Missing corner area: 64; Completed square area: 256;  
Completed square side: 16; Positive length  $x$ : 8

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