Name:

Exam Style Questions

Square Numbers
Square Roots

Corbettmaths

Equipment needed: Calculator and Pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

www.corbettmaths.com/contents

Videos 226, 227, 228

Answers and Video Solutions

1. From the list of numbers

2 6 11 14 16 18 24 25

(a) write down the square numbers

16 and 25

(2)

(b) write down the square root of 36.

6

(1)

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2. Here is a list of numbers

45 46 47 48 49 50 51 52

From the list, write down the square number

49

(1)

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3. Write down the value of 4^2

$4 \times 4 = 16$

16

(1)

4. Write down the value of

(a) 3^2 3 x 3

9

(1)

(b) seven squared 7 x 7

49

(1)

(c) 8^2 8 x 8

64

(1)

(d) ten squared 10 x 10

100

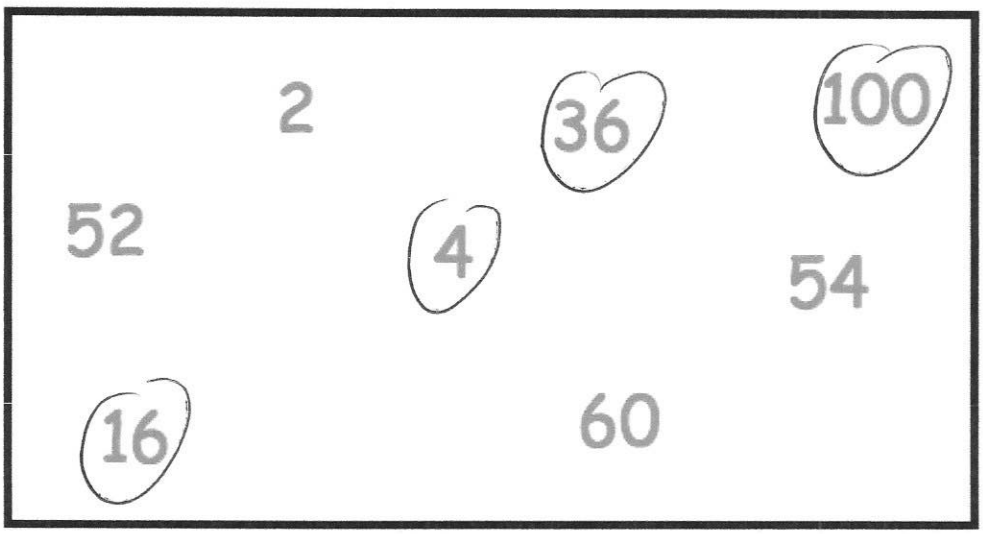
(1)

(e) 12^2 12 x 12

144

(1)

5.



Circle all the square numbers.

(2)

6. Write down the value of

(a) $\sqrt{81}$

9

.....

(1)

(b) $\sqrt{1}$

1

.....

(1)

(c) $\sqrt{121}$

11

.....

(1)

(d) $\sqrt{0}$

0

.....

(1)

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7. Work out 19^2

19
x 19
171
+ 190
361

361

.....

(2)

8. Calculate 2.4^2

5.76

.....

(1)

9. Calculate $\sqrt{62.41}$

7.9

.....

(1)

10. Work out 7.9^2

62.41

.....

(1)

11. Work out $\sqrt{0.1156}$

0.34

.....

(1)

12. Circle the number that **double** a square number.

12 14 16 (18)

9 x 2

(1)

13. Priya says that 50 is a square number.

Show that Priya is not correct.

$7 \times 7 = 49$

$8 \times 8 = 64$

Therefore 50 is not a square number.

(2)

14. Megan says "when you square root a number, the answer is always smaller."

Show she is wrong.

$\sqrt{0} = 0$

$\sqrt{1} = 1$

$\sqrt{0.25} = 0.5$

etc.

(2)

15. Write down a square number that is greater than 30 and less than 50.

36 or 49

.....

(1)

16. Arrange these in order, starting with the smallest.

3^2 $\sqrt{100}$ 4^2 $\sqrt{80}$

$\sqrt{64} = 8$
$\sqrt{81} = 9$

9 10 16 $\approx 8.9...$

$\sqrt{80}$, 3^2 , $\sqrt{100}$, 4^2

(2)

17. William is thinking of two numbers.
Both numbers are square numbers greater than 1.
The sum of the numbers is 100.

Write down the two numbers.

$36 + 64$

36 and 64

(2)

18. Mr Jenkins is tiling a square floor.
He uses 196 square tiles.

Work out how many tiles are in each row.

$\sqrt{196} = 14$

14

(2)

19. Write down an even square number greater than 1000.

$32^2 = 1024$

$34^2 = 1156$

$50^2 = 2500$ etc.

1024

(1)

20. Write down the square root of ten thousand.

$100 \times 100 = 10000$

100

(1)

21. Write down the square root of four million.

$\sqrt{4000000} = 2000$

2000

(1)

22. Circle the number that is closest to the $\sqrt{80}$

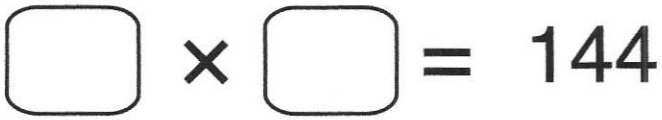
7 8 (9) 10

$\sqrt{64} = 8$

$\sqrt{81} = 9$

(1)

23.



Kyle has been asked to find the same number to write in boxes to make the multiplication correct.

Kyle says that there are two possible answers.

Is Kyle correct?
Explain your answer.

Yes, 12 or -12

12 x 12 = 144

-12 x -12 = 144

(2)

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24. Ben says

"the difference between two consecutive square numbers is always odd."

Is Ben correct?
You must show your workings.

$5^2 - 4^2$

$25 - 16 = 9$

odd x odd = odd

even x even = even

odd - even = odd

even - odd = odd

Yes, Ben is correct.

(2)