

Square Worksheet-1 — Perfect Squares (Factorization Method)

Method: prime factorization — pair the prime factors · **quick checks:** squares never end in 2, 3, 7, 8 or an odd number of zeros

Write the prime factors and pair them to decide if each number is a perfect square. If it is, give its square root.

Name: _____

Date: _____

Score: _____ / 20

1) Is 13689 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

2) Is 4536 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

3) Is 506 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

4) Is 3364 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

5) Is 1089 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

6) Is 15876 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

7) Is 3969 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

8) Is 256 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

9) Is 1044 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

10) Is 343 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

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Write the prime factors and pair them to decide if each number is a perfect square. If it is, give its square root.

Name: _____

Date: _____

Score: _____ / 20

11) Is 200 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

12) Is 729 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

13) Is 512 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

14) Is 891 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

15) Is 11664 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

16) Is 1936 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

17) Is 2156 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

18) Is 624 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

19) Is 275 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

20) Is 441 a perfect square?

Perfect square? Yes / No

$\sqrt{N} =$ _____

Square Worksheet-2 — Squares of Two-digit Numbers

Sutras: Urdhva-Tiryak duplex ($x^2 \mid 2xy \mid y^2$) · or the Vedic base method (base, deficiency D , then $(N+D) \mid D^2$)

Find each square using the duplex (vertically & crosswise) or Vedic base method. Show your working, then write the answer.

Name: _____

Date: _____

Score: _____ / 20

1) $(22)^2 =$

Answer: _____

2) $(64)^2 =$

Answer: _____

3) $(79)^2 =$

Answer: _____

4) $(74)^2 =$

Answer: _____

5) $(38)^2 =$

Answer: _____

6) $(75)^2 =$

Answer: _____

7) $(15)^2 =$

Answer: _____

8) $(82)^2 =$

Answer: _____

9) $(29)^2 =$

Answer: _____

10) $(93)^2 =$

Answer: _____

Square Worksheet-2 — Squares of Two-digit Numbers

Sutras: Urdhva-Tiryak duplex ($x^2 \mid 2xy \mid y^2$) · or the Vedic base method (base, deficiency D, then $(N+D) \mid D^2$)

Find each square using the duplex (vertically & crosswise) or Vedic base method. Show your working, then write the answer.

Name: _____

Date: _____

Score: _____ / 20

11) $(65)^2 =$

Answer: _____

12) $(89)^2 =$

Answer: _____

13) $(92)^2 =$

Answer: _____

14) $(52)^2 =$

Answer: _____

15) $(27)^2 =$

Answer: _____

16) $(91)^2 =$

Answer: _____

17) $(84)^2 =$

Answer: _____

18) $(11)^2 =$

Answer: _____

19) $(20)^2 =$

Answer: _____

20) $(33)^2 =$

Answer: _____

Square Worksheet-3 — Squares of Three-digit Numbers

Sutra: Urdhva-Tiryak duplex (5 positions) · also solvable by the Visual $((a+b)^2)$ or Diagonal (lattice) method

Find each square using the duplex, visual or diagonal method. Show your working, then write the answer.

Name: _____

Date: _____

Score: _____ / 20

1) $(651)^2 =$

Answer: _____

2) $(551)^2 =$

Answer: _____

3) $(217)^2 =$

Answer: _____

4) $(477)^2 =$

Answer: _____

5) $(479)^2 =$

Answer: _____

6) $(185)^2 =$

Answer: _____

7) $(472)^2 =$

Answer: _____

8) $(959)^2 =$

Answer: _____

9) $(180)^2 =$

Answer: _____

10) $(911)^2 =$

Answer: _____

Square Worksheet-3 — Squares of Three-digit Numbers

Sutra: Urdhva-Tiryak duplex (5 positions) · also solvable by the Visual $((a+b)^2)$ or Diagonal (lattice) method

Find each square using the duplex, visual or diagonal method. Show your working, then write the answer.

Name: _____

Date: _____

Score: _____ / 20

11) $(155)^2 =$

Answer: _____

12) $(437)^2 =$

Answer: _____

13) $(899)^2 =$

Answer: _____

14) $(415)^2 =$

Answer: _____

15) $(336)^2 =$

Answer: _____

16) $(456)^2 =$

Answer: _____

17) $(344)^2 =$

Answer: _____

18) $(615)^2 =$

Answer: _____

19) $(301)^2 =$

Answer: _____

20) $(429)^2 =$

Answer: _____

Square Worksheet-1 — Perfect Squares (Factorization Method)

- | | | | |
|--------------------------|--------------------------|---------------------------|--------------------------|
| 1) Yes ($\sqrt{=117}$) | 2) No | 3) No | 4) Yes ($\sqrt{=58}$) |
| 5) Yes ($\sqrt{=33}$) | 6) Yes ($\sqrt{=126}$) | 7) Yes ($\sqrt{=63}$) | 8) Yes ($\sqrt{=16}$) |
| 9) No | 10) No | 11) No | 12) Yes ($\sqrt{=27}$) |
| 13) No | 14) No | 15) Yes ($\sqrt{=108}$) | 16) Yes ($\sqrt{=44}$) |
| 17) No | 18) No | 19) No | 20) Yes ($\sqrt{=21}$) |

Square Worksheet-2 — Squares of Two-digit Numbers

- | | | | |
|----------|----------|----------|----------|
| 1) 484 | 2) 4096 | 3) 6241 | 4) 5476 |
| 5) 1444 | 6) 5625 | 7) 225 | 8) 6724 |
| 9) 841 | 10) 8649 | 11) 4225 | 12) 7921 |
| 13) 8464 | 14) 2704 | 15) 729 | 16) 8281 |
| 17) 7056 | 18) 121 | 19) 400 | 20) 1089 |

Square Worksheet-3 — Squares of Three-digit Numbers

- | | | | |
|------------|------------|------------|------------|
| 1) 423801 | 2) 303601 | 3) 47089 | 4) 227529 |
| 5) 229441 | 6) 34225 | 7) 222784 | 8) 919681 |
| 9) 32400 | 10) 829921 | 11) 24025 | 12) 190969 |
| 13) 808201 | 14) 172225 | 15) 112896 | 16) 207936 |
| 17) 118336 | 18) 378225 | 19) 90601 | 20) 184041 |