

MATH 8 - Mid-Unit 1 Quiz - PRACTICE

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- _____ 1. Find a square root of 64.
a. 32 b. 8 c. 16 d. 32
- _____ 2. Find $\sqrt{144}$.
a. 12 b. 72 c. 36 d. 48
- _____ 3. Find the square of $\sqrt{49}$.
a. 196 b. 7 c. 2401 d. 49
- _____ 4. The area of a square is 24 m^2 . Find its side length.
a. $\sqrt{24} \text{ m}$ b. $\sqrt{6} \text{ m}$ c. $\sqrt{96} \text{ m}$ d. 6 m
- _____ 5. Which whole number is $\sqrt{8}$ closer to?
a. 5 b. 4 c. 3 d. 2
- _____ 6. Simplify $\sqrt{15} + \sqrt{11}$ to the nearest whole number. (Hint: Calculate each square root individually, and then, add those numbers)
a. 7 b. 8 c. 5 d. 13
- _____ 7. Estimate $\sqrt{48}$ to 1 decimal place.
a. 4.9 b. 15.5 c. 24 d. 6.9
- _____ 8. The area of square P is 52 cm^2 .
Square Q has an area equal to one quarter the area of square P.
Find the approximate side length of square Q.
Give your answer to 1 decimal place.
a. 3.6 cm b. 5.1 cm c. 13 cm d. 1.8 cm

Short Answer

9. Which 2 consecutive square numbers is 126 between?
10. Find the area of a square with side length 14 units.
11. A square book cover has area 25 square units.
Find the perimeter of the book cover.
12. Is 5 greater than, less than, or equal to $\sqrt{32}$?

Problem

13. The numbers 2, 3, 5, 7, 11, and 13 are written on separate cards.
Which pairs of numbers give a sum that is a perfect square?

Find all possible solutions.

14.
 - a) On grid paper, draw a square with area 32 square units.
 - b) Explain how you know the square has this area.
 - c) Write the side length s of the square.

15. Is 5.66 a good estimate of $\sqrt{32}$?
Justify your answer.

MATH 8 - Mid-Unit 1 Quiz - Version 2

Answer Section

MULTIPLE CHOICE

- | | | | |
|------------------------|-----------------------|---|-----------------------------------|
| 1. ANS: B
LOC: 8.N1 | PTS: 1
TOP: Number | DIF: Easy
KEY: Conceptual Understanding | REF: 1.2 Squares and Square Roots |
| 2. ANS: A
LOC: 8.N1 | PTS: 1
TOP: Number | DIF: Easy
KEY: Conceptual Understanding | REF: 1.2 Squares and Square Roots |
| 3. ANS: D
LOC: 8.N1 | PTS: 1
TOP: Number | DIF: Moderate
KEY: Conceptual Understanding | REF: 1.2 Squares and Square Roots |
| 4. ANS: A
LOC: 8.N1 | PTS: 1
TOP: Number | DIF: Easy
KEY: Conceptual Understanding | REF: 1.3 Measuring Line Segments |
| 5. ANS: C
LOC: 8.N2 | PTS: 1
TOP: Number | DIF: Easy
KEY: Conceptual Understanding | REF: 1.4 Estimating Square Roots |
| 6. ANS: A
LOC: 8.N2 | PTS: 1
TOP: Number | DIF: Moderate
KEY: Conceptual Understanding | REF: 1.4 Estimating Square Roots |
| 7. ANS: D
LOC: 8.N2 | PTS: 1
TOP: Number | DIF: Moderate
KEY: Conceptual Understanding | REF: 1.4 Estimating Square Roots |
| 8. ANS: A
LOC: 8.N2 | PTS: 1
TOP: Number | DIF: Difficult
KEY: Conceptual Understanding | REF: 1.4 Estimating Square Roots |

SHORT ANSWER

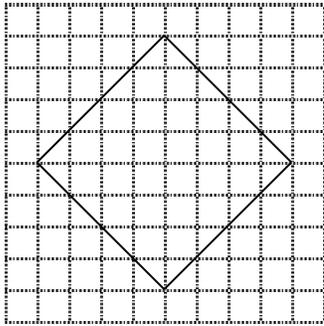
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|--|---------------------|------------------------------|--|
| 9. ANS:
121 and 144 | PTS: 1
LOC: 8.N1 | DIF: Easy
TOP: Number | REF: 1.1 Square Numbers and Area Models
KEY: Conceptual Understanding |
| 10. ANS:
196 square units | PTS: 1
LOC: 8.N1 | DIF: Moderate
TOP: Number | REF: 1.1 Square Numbers and Area Models
KEY: Conceptual Understanding |
| 11. ANS:
20 units | PTS: 1
LOC: 8.N1 | DIF: Moderate
TOP: Number | REF: 1.1 Square Numbers and Area Models
KEY: Conceptual Understanding |
| 12. ANS:
5 is less than $\sqrt{32}$ | PTS: 1
LOC: 8.N2 | DIF: Moderate
TOP: Number | REF: 1.4 Estimating Square Roots
KEY: Conceptual Understanding |

PROBLEM

13. ANS:
 $2 + 7 = 9$
 $3 + 13 = 16$
 $5 + 11 = 16$

PTS: 1 DIF: Moderate REF: 1.1 Square Numbers and Area Models
LOC: 8.N1 TOP: Number KEY: Problem-solving Skills

14. ANS:
a)



- b) Divide the square into 4 congruent triangles. The area of each triangle is 8 square units. So, the area of the square is 32 square units.
c) $s = \sqrt{32}$ units

PTS: 1 DIF: Difficult REF: 1.3 Measuring Line Segments
LOC: 8.N1 TOP: Number KEY: Communication | Problem-solving Skills

15. ANS:
Yes, 5.66 is a good estimate.
 $5.65 \times 5.65 = 31.92$ (too small, but close)
 $5.67 \times 5.67 = 32.15$ (too large, but close)
 $5.66 \times 5.66 = 32.04$ (very close)

PTS: 1 DIF: Difficult REF: 1.4 Estimating Square Roots
LOC: 8.N2 TOP: Number
KEY: Procedural Knowledge | Communication | Problem-solving Skills