

Real Numbers Practice Test NO CALCULATOR**Short Answer**

1. Evaluate the expression for the given value of x .

$$x + 2x^{-4}(2x) \quad \text{when } x = 8$$

2. Write 0.000000474 in scientific notation.

3. Simplify 11^{-3} .

4. Find the length of the side of a square with an area of 36.

5. Suzanne wants to put a fence around her square garden. If the garden covers an area of 49 ft^2 , how many feet of fencing does she need?

6. a. Decide whether each of the following statements is true or false.

Problem	True or False
1. $25^{100} \times 25^{10} = 25^{1000}$	
2. $4^9 \times 5^9 = 20^9$	
3. $(3^6)^8 = 3^{48}$	
4. $\frac{10^6}{10^2} = 10^3$	

Write the expression using a single exponent.

7. $7^5 \cdot 7^6$

8. $\frac{144^{14}}{144^2}$

9. $(19^8)^6$

Multiple Choice

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

- _____ 1. Estimate the value of $\sqrt{56}$ to the nearest whole number.
a. 9
b. 7
c. 8
d. 6
- _____ 2. Without using a calculator, choose the number that could be a representation of $\sqrt{28}$ on a calculator.
a. 5.2915026
b. 4.8989794
c. 5.9160797
d. 4.1231056

Simplify.

- _____ 3. $\sqrt[3]{1000}$.
a. 1000
b. 3,000
c. 10
d. $333.\overline{3}$
- _____ 4. Classify 8 as a perfect square, a perfect cube, both, or neither.
a. perfect square
b. perfect cube
c. both
d. neither
- _____ 5. Which of these is equivalent to $x^2 = 48$?
a. $\pm\sqrt{48}$
b. ± 24
c. $\sqrt{48}$
d. 24
- _____ 6. Simplify 10^0 .
a. 1
b. 10
c. $\frac{1}{10}$
d. 0

Solve for x.

- _____ 7. $x^2 = 144$
a. $x = \pm 11$
b. $x = \pm 72$
c. $x = \pm 12$
d. $x = 12$
- _____ 8. $x^3 = -216$
a. $x = -72$
b. $x = \pm 72$
c. $x = -6$
d. $x = \pm 6$
- _____ 9. Which number is irrational?
a. $\sqrt{81}$
b. $\sqrt{169}$
c. $\sqrt{156}$
d. $\sqrt{144}$
- _____ 10. $\sqrt{84}$
a. rational
b. irrational

