FIBO · LEARN, PRACTICE & EXPLORE MATH

Unit 5 · Powers & Roots — Unit Test

16 questions · 16 points · full worked solutions inside

ANSWER KEY — TEACHERS & PARENTS

Name _____ Date _____

Class _____

Directions: This key shows a full worked solution for every question. Final answers are boxed.

1 **Compute: 45 × 18.** [1 pt]

Solution.
45 × 18 = 450 + 360 = 810.

810

2 **Compute: 63 × 29.** [1 pt]

Solution.
63 × 29 = 63 × 30 − 63 = 1890 − 63 = 1827.

1827

3 **Compute: 73 ÷ 9. (Remainder form, e.g. 7r5.)** [1 pt]

Solution.
73 = 9 × 8 + 1.

8r1

4 **A baker packs 125 cookies into boxes of 12. How many full boxes?** [1 pt]

Solution.
125 = 12 × 10 + 5 — only 10 full boxes.

10

5 **Simplify: $x^3 \cdot x^4$. (Type like x^7.)** [1 pt]

Solution.
$x^3 \cdot x^4 = x^{3+4} = x^7$.

x^7

6 **Evaluate: 3^4.** [1 pt]

Solution.
$3^4 = 81$.

81

7 **Evaluate: $(2^3)^2$.** [1 pt]

Solution.
$(2^3)^2 = 2^6 = 64$.

64

8 **Evaluate: 5^{-1}. (Write as a fraction, e.g. 1/2.)** [1 pt]

Solution.
$5^{-1} = 1/5$.

1/5

9 **Which equals 2^6?** [1 pt]

Solution.
$2^6 = 64$.

64

10 **Simplify: √50. (Type like 2sqrt5.)** [1 pt]

Solution.
√50 = √(25 × 2) = 5√2.

5sqrt2

11 **Evaluate: √144.** [1 pt]

Solution.
12 × 12 = 144.

12

12 **Multiply: √5 · √5.** [1 pt]

Solution.
√5 · √5 = 5.

5

13 **Simplify: √(9/16). (Write as a fraction, e.g. 1/2.)** [1 pt]

Solution.
√(9/16) = √9/√16 = 3/4.

3/4

14 **Solve: √x = 7.** [1 pt]

Solution.
$x = 7^2 = 49$.

x = 49

15 **Solve: √x + 5 = 12.** [1 pt]

Solution.
$\sqrt{x} = 7 \rightarrow x = 49$.

x = 49

16 **Solve: √(x + 3) = 4. Which value works?** [1 pt]

Solution.
$x + 3 = 16 \rightarrow x = 13$.

x = 13

Grade chart

Grade	Percent	Points (of 16)
A	90–100%	14.5–16 pts
B	80–89%	13–14 pts
C	70–79%	11.5–12.5 pts
D	60–69%	10–11 pts
F	Below 60%	below 10 pts