

LESSON

5

Exponents and Roots**Practice B: Squares and Square Roots****Find the two square roots of each number.**

1. 36

2. 81

3. 49

4. 100

5. 64

6. 121

7. 25

8. 144

Simplify each expression.

9. $\sqrt{32+17}$

10. $\sqrt{100-19}$

11. $\sqrt{64+36}$

12. $\sqrt{73-48}$

13. $2\sqrt{64}+10$

14. $36-\sqrt{36}$

15. $\sqrt{100}-\sqrt{25}$

16. $\sqrt{121}+16$

17. $\sqrt{\frac{25}{4}}+\frac{1}{2}$

18. $\sqrt{\frac{100}{25}}$

19. $\sqrt{\frac{196}{49}}$

20. $3(\sqrt{144}-6)$

The Pyramids of Egypt are often called the first wonder of the world. This group of pyramids consists of Menkaura, Khufu, and Khafra. The largest of these is Khufu, sometimes called Cheops. During this time in history, each monarch had his own pyramid built to bury his mummified body. Cheops was a king of Egypt in the early 26th century B.C. His pyramid's original height is estimated to have been 482 ft. It is now approximately 450 ft. The estimated completion date of this structure was 2660 B.C.

21. If the area of the base of Cheops' pyramid is $570,025 \text{ ft}^2$, what is the length of one of the sides of the ancient structure?

(Hint: $s = \sqrt{A}$)

22. If a replica of the pyramid were built with a base area of 625 in^2 , what would be the length of each side?

(Hint: $s = \sqrt{A}$)

$$2. (5.2 \times 10^{12}) \times (3.9 \times 10^{13})$$

$$(5.2 \times 3.9) \times (10^{12} \times 10^{13})$$

$$20.3 \times (10^{12} \times 10^{13})$$

$$20.3 \times 10^{25}$$

$$2.03 \times 10^{26}$$

Challenge

Sample answers are given.

- 13 years 4 months 5 days
- 4.872×10^3 days
- 1.16928×10^5 hours
- 7.01568×10^6 minutes
- 4.209408×10^8 seconds
- 4.209408×10^{17} nanoseconds

Problem Solving

- 2.33×10^3 times 2. 1.61×10^{10} mi
- 3.533×10^6 sq mi 4. $\$4.07 \times 10^9$
- A 6. G
- B 8. J

Reading Strategies

- B; 1.18×10^7
- C; 8.3116×10^{11}
- A; 4.75×10^{20}

Puzzles, Twisters & Teasers

- $(6.4 \times 10^4) + (2.1 \times 10^4) = 8.5 \times 10^4$
- $(5.8 \times 10^7) - (2.2 \times 10^5) = 5.778 \times 10^7$
- $\frac{3.75 \times 10^5}{5 \times 10^2} = 7.5 \times 10^2$
- $(2.95 \times 10^2) \times (4.3 \times 10^6) = 1.2685 \times 10^9$
- $(2.0 \times 10^{-2}) + (5.1 \times 10^2) = 5.1002 \times 10^2$
- $(3.0 \times 10^7) \times (2.2 \times 10^{-5}) = 6.6 \times 10^2$

ANSWER TO THE RIDDLE **SUM FUN**

Answers for Lesson 5

Practice A

- | | |
|------------|-------------------------|
| 1. 4, -4 | 2. 7, -7 |
| 3. 1, -1 | 4. 5, -5 |
| 5. 10, -10 | 6. 2, -2 |
| 7. 9, -9 | 8. 8, -8 |
| 9. 3 | 10. 1 |
| 11. 4 | 12. 6 |
| 13. 16 | 14. 10 |
| 15. 5 | 16. 13 |
| 17. 2 | 18. 15 |
| 19. 5 | 20. -27 |
| 21. 9 ft | 22. 100 ft ² |

Practice B

- | | |
|------------|------------|
| 1. 6, -6 | 2. 9, -9 |
| 3. 7, -7 | 4. 10, -10 |
| 5. 8, -8 | 6. 11, -11 |
| 7. 5, -5 | 8. 12, -12 |
| 9. 7 | 10. 9 |
| 11. 10 | 12. 5 |
| 13. 26 | 14. 30 |
| 15. 5 | 16. 27 |
| 17. 3 | 18. 2 |
| 19. 2 | 20. 18 |
| 21. 755 ft | 22. 25 in. |

Practice C

- | | |
|-------------------|------------|
| 1. 15, -15 | 2. 24, -24 |
| 3. 19, -19 | 4. 25, -25 |
| 5. 20, -20 | 6. 27, -27 |
| 7. 32, -32 | 8. 50, -50 |
| 9. $\frac{1}{3}$ | 10. 6 |
| 11. 5 | 12. 7 |
| 13. $\frac{1}{2}$ | 14. 7 |
| 15. 36 | 16. -96 |