

Practice Exercise 3

1. What is the value of $(.02)^2$?

- A. .4
- B. .04
- C. .004
- D. .0004**
- E. .22

2. $4^3 \cdot 3^2 \cdot 2^3 = ?$

- A. 576
- B. 1,152
- C. 2,304
- D. 3,072
- E. 4,608**

3. Which of the following numbers can be evenly divided by both 4 and 9?

- A. 1,350 $\div 36$
- B. 2,268 $\div 36$ ✓**
- C. 4,700 $\div 36$
- D. 5,756 $\div 36$
- E. None of the above

4. Which of the following numbers are divisible by 3?

- (I) 242
- (II) 45,027 ✓
- (III) 804,597 ✓
- A. II only
- B. III only
- C. I and II
- D. II and III**
- E. I, II, and III

5. $\frac{3^{14}}{27^4} = ?$

- A. $\frac{1}{9}$
- B. 1
- C. 3
- D. 9**
- E. 27

6. Simplify: $4\sqrt{5} - \sqrt{80} =$

- A. $2\sqrt{5}$
 - B. 0**
 - C. $\sqrt{80}$
 - D. 1
 - E. $4\sqrt{75}$
- $4\sqrt{5} - \sqrt{16 \cdot 5}$
 $4\sqrt{5} - 4\sqrt{5}$

7. What is the prime factorization of 144?

- A. $1 \cdot 144$
 - B. $2 \cdot 2 \cdot 36$
 - C. $2 \cdot 2 \cdot 4 \cdot 9$
 - D. $2^4 \cdot 3^2$**
 - E. $2^2 \cdot 3^4$
- $144 = 12 \cdot 12$
 $= 2 \cdot 2 \cdot 3 \cdot 2 \cdot 2 \cdot 3$
 $= 2^4 \cdot 3^2$

8. Evaluate $\frac{6!}{3!5!}$

- A. 0
 - B. 1**
 - C. 48
 - D. 90
 - E. 720
- $\frac{6 \cdot 5!}{3! \cdot 5!} = \frac{6}{3 \cdot 2 \cdot 1}$

9. What is the prime factorization of 210?

- A. $2 \cdot 5 \cdot 21$
 - B. $3 \cdot 7 \cdot 11$
 - C. $2 \cdot 3 \cdot 5 \cdot 7$**
 - D. $2 \cdot 3 \cdot 7 \cdot 11$
 - E. $2 \cdot 105$
- $210 = 10 \cdot 21$
 $= 2 \cdot 5 \cdot 3 \cdot 7$

10. 108 is divisible by:

- A. 2, 3, 4, 7, and 9
- B. 2, 4, 6, and 8
- C. 2, 3, 4, 6, and 9**
- D. 2, 3, 6, 8, and 9
- E. 2, 6, 9, and 14