

# Comprehensive Arithmetic Drill

The answers can be found in Part IV.

6. If  $25x^2 = 16$ , then  $3(5x)^2 =$

- (A) 9
- (B) 15
- (C) 25
- (D) 48
- (E) 75

9. What is the least common multiple of 180 and 210?

- (A) 30
- (B) 360
- (C) 720
- (D) 1,050
- (E) 1,260

11. The price of a television which originally sold for \$500 is discounted by 25%. If the new price of the TV is subsequently raised by 25%, what is the final price of the television?

- (A) \$375.25
- (B) \$450.00
- (C) \$468.75
- (D) \$500.00
- (E) \$575.50

15. In 2010, a minor league baseball team sold an average of 3,215 tickets per game. In 2011, the average tickets sold per game was 2,934. What was the percent decrease in the average number of tickets sold from 2010 to 2011?

- (A) 8.7%
- (B) 9.6%
- (C) 12.4%
- (D) 22.9%
- (E) 91.3%

18. If  $12^n = 3^5 \cdot 4^5$ , what is the value of  $n$ ?

- (A) 1
- (B) 5
- (C) 10
- (D) 20
- (E) 25

20.  $\frac{x^6y^{-3}z^5}{x^{-2}y^4z^5} = ?$

- (A)  $\frac{x^4}{y}$
- (B)  $\frac{x^4z}{y}$
- (C)  $\frac{x^8}{y^7}$
- (D)  $\frac{x^8z}{y^7}$
- (E)  $\frac{x^8}{y}$

21. Steven sold an average (arithmetic mean) of 3 houses per month during the first 5 months of the year. Steven will receive a promotion if he sells 39 houses in 1 year. What must his average sales, in houses per month, be for the remaining 7 months of the year if he is to be promoted?

- (A) 2.1
- (B) 2.8
- (C) 3.1
- (D) 3.4
- (E) 7.2

30. A total of 9 students donated money for a school fundraiser and their average (arithmetic mean) donation was \$12. If the average donation for 5 of the students was \$16, what was the average donation, for the remaining 4 students?

- (A) \$5
- (B) \$6
- (C) \$7
- (D) \$8
- (E) \$9

33. If one-sixth is one-half of three-fourths of a certain number, what is that number?

(A)  $\frac{3}{16}$

(B)  $\frac{4}{9}$

(C)  $\frac{5}{4}$

(D)  $\frac{3}{2}$

(E)  $\frac{9}{4}$

41. At the end of 2006, the population of Town A was 4,225. If the population increases at a rate of 2.25 percent each year, what will the population of Town A be at the end of 2018?

(A) 4,538

(B) 4,970

(C) 5,063

(D) 5,518

(E) 6,260

49. A solution is made by mixing acid with water. How many liters of acid should be mixed with 4 liters of water to make a solution that is 24% acid?

(A) 0.26

(B) 0.96

(C) 1.26

(D) 3.45

(E) 5.26