





1. WHAT IS THE VALUE OF  $2 \times (15 - 7) + 3^2$ ?

- A) 23
- B) 25
- C) 27
- D) 29
- E) 31

2. A COAT ORIGINALLY COSTS \$80. IT'S ON SALE FOR 25% OFF. WHAT IS THE SALE PRICE?

- A) \$55
- в) \$60
- C) \$65
- D) \$70
- E) \$75

3. WHAT IS THE NEXT NUMBER IN THE SEQUENCE: 1, 3, 7, 15, \_\_?

- A) 25
- в) 27
- C) 29
- D) 31
- E) 33

4. A RECTANGLE HAS AN AREA OF 48 CM<sup>2</sup> AND A PERIMETER OF 28 CM. WHAT IS ITS WIDTH?

- A) 4 CM
- B) 6 CM
- с) 8 СМ
- D) 10 CM
- E) 12 CM

5. IF IT'S 8:20 PM, HOW MANY MINUTES ARE THERE UNTIL MIDNIGHT?

- A) 180
- в) 200
- C) 220
- D) 240
- E) 260







6. A CUBE HAS A VOLUME OF 64 CM<sup>3</sup>. WHAT IS THE LENGTH OF ONE EDGE? A) 3 CM B) 4 CM C) 5 CM D) 6 CM E) 8 CM 7. A CLASS HAS 12 BOYS AND 18 GIRLS. WHAT IS THE RATIO OF BOYS TO TOTAL STUDENTS, SIMPLIFIED? A) 2:5 B) 3:7 C) 2:3 D) 4:9 E) 5:12 8. WHAT IS THE VALUE OF 3/5 × 10/9? A) 2/3 B) 3/4 C) 5/6 D) 7/9 E) 8/11 9. SOLVE FOR X: 2X + 5 = 17. A) 5 B) 6 C)7 D) 8 E) 9 10. A STORE SELLS 4 APPLES FOR \$2.80. HOW MUCH WOULD 10 APPLES COST? A) \$6.50 B) \$7.00 C) \$7.50 D) \$8.00 E) \$8.50







11. WHICH NUMBER IS DIVISIBLE BY BOTH 6 AND 8?

- A) 36
- B) 42
- C) 48
- D) 54
- E) 60

12. A CIRCLE HAS A CIRCUMFERENCE OF 12 II CM. WHAT IS ITS AREA?

- А) 24П СМ<sup>2</sup>
- B) 36П СМ<sup>2</sup>
- C) 48П СМ<sup>2</sup>
- D) 60П СМ<sup>2</sup>
- E) 72П СМ<sup>2</sup>

13. A NUMBER IS INCREASED BY 20% AND THEN DECREASED BY 20%. IF THE FINAL RESULT IS 48, WHAT WAS THE ORIGINAL NUMBER?

- A) 40
- B) 45
- C) 50
- D) 55
- E) 60

14. HOW MANY POSITIVE TWO-DIGIT NUMBERS ARE THERE WHERE THE TENS DIGIT IS GREATER THAN THE UNITS DIGIT?

- A) 36
- B) 40
- C) 45
- D) 50
- E) 54

15. IF TODAY IS TUESDAY, WHAT DAY WILL IT BE IN 100 DAYS?

- A) MONDAY
- B) TUESDAY
- C) WEDNESDAY
- D) THURSDAY
- E) FRIDAY





## **ANSWERS WITH EXPLANATIONS**

- 1.B) 25, 2 × (15 7) = 16, 3<sup>2</sup> = 9, 16 + 9 = 25
- 2.B) \$60, 25% OF \$80 = \$20, \$80 \$20 = \$60
- 3.D) 31, PATTERN IS  $2^{N} 1$ :  $2^{1} 1 = 1$ ,  $2^{2} 1 = 3$ ,  $2^{3} 1 = 7$ ,  $2^{4} 1 = 15$ ,  $2^{5} 1 = 31$
- 4.B) 6 CM, LET WIDTH = W, LENGTH = L = 8; 2(8 + W) = 28, 8 + W = 14, W = 6; CHECK AREA: 8 × 6 = 48
- 5.C) 220, 8:20 PM TO 12:00 AM: 3 HR 40 MIN = 3 × 60 + 40 = 220 MINUTES
- 6.B) 4 CM, VOLUME = EDGE<sup>3</sup>, 64 = EDGE<sup>3</sup>, EDGE = <sup>3</sup>/<sub>6</sub>64 = 4 CM
- 7.A) 2:5, TOTAL = 12 + 18 = 30, BOYS:TOTAL = 12:30 = 2:5
- 8.A) 2/3, 3/5 × 10/9 = (3 × 10)/(5 × 9) = 30/45 = 2/3
- 9.B) 6, 2X + 5 = 17, 2X = 12, X = 6
- 10.B) \$7.00, 1 APPLE = \$2.80 ÷ 4 = \$0.70, 10 APPLES = 10 × \$0.70 = \$7.00
- 11.C) 48, 48  $\div$  6 = 8, 48  $\div$  8 = 6; OTHERS DON'T SATISFY BOTH
- 12.B) 36П CM<sup>2</sup>, C = 2ПR = 12П, R = 6, AREA = ПR<sup>2</sup> = П × 6<sup>2</sup> = 36П CM<sup>2</sup>
- 13.C) 50, LET X BE ORIGINAL; X × 1.2 × 0.8 = 48, X × 0.96 = 48, X = 48 ÷ 0.96 = 50
- 14. A) 36, TENS > UNITS: 2-DIGIT NUMBERS LIKE 21, 31, 32, ETC.; COUNT PAIRS: 9-1 + 8-1 + ... + 2-1 = 36
- 15.C) WEDNESDAY,  $100 \div 7 = 14$  WEEKS + 2 DAYS, TUESDAY + 2 DAYS = WEDNESDAY