





1. WHAT IS THE VALUE OF 15 × 3 - 8 ÷ 2?

- A) 37
- B) 39
- C) 41
- D) 43
- E) 45

2. A SHIRT COSTS \$24 AFTER A 20% DISCOUNT. WHAT WAS THE ORIGINAL PRICE?

- A) \$28
- B) \$30
- C) \$32
- D) \$36
- E) \$40

3. WHAT IS THE NEXT NUMBER IN THE SEQUENCE: 2, 3, 5, 8, 13, \_\_?

- A) 18
- B) 20
- C) 21
- D) 23
- E) 25

4. A RECTANGLE HAS A PERIMETER OF 26 CM AND A LENGTH OF 8 CM. WHAT IS ITS AREA?

- A) 24 CM<sup>2</sup>
- B) 32 CM<sup>2</sup>
- C) 40 CM<sup>2</sup>
- D) 48 CM<sup>2</sup>
- E) 56 CM<sup>2</sup>

5. IF IT'S 10:45 AM, HOW MANY MINUTES ARE THERE UNTIL 1:15 PM?

- A) 120
- B) 135
- C) 150
- D) 165
- E) 180







6. HOW MANY FACES DOES A CUBE HAVE?

- A) 4
- в) 6
- C) 8
- D) 10
- E) 12

7. A BAG CONTAINS 4 RED, 3 BLUE, AND 2 GREEN MARBLES. WHAT FRACTION OF THE MARBLES ARE NOT RED?

- A) 4/9
- B) 5/9
- C) 2/3
- D) 7/9
- E) 8/9
- 8. WHAT IS THE VALUE OF 2/3 + 3/4?
- A) 5/7
- B) 1 5/12
- C)11/2
- D) 1 7/12
- E) 2

9. A NUMBER IS MULTIPLIED BY 3, THEN 7 IS ADDED, AND THE RESULT IS 25. WHAT IS THE NUMBER?

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

10. THE RATIO OF BOYS TO GIRLS IN A CLASS IS 3:2. IF THERE ARE 15 BOYS, HOW MANY GIRLS ARE THERE?

- A) 8
- в) 9
- C) 10
- D) 12
- E) 15







11. WHICH NUMBER IS DIVISIBLE BY BOTH 5 AND 9?

- A) 35
- B) 40
- C) 45
- D) 50
- E) 55

12. A TRIANGLE HAS A BASE OF 6 CM AND A HEIGHT OF 8 CM. WHAT IS ITS AREA?

- A) 14 CM<sup>2</sup>
- B) 24 CM<sup>2</sup>
- C) 28 CM<sup>2</sup>
- D) 32 CM<sup>2</sup>
- E) 48 CM<sup>2</sup>

13. A STORE HAS 120 APPLES. ON MONDAY, 1/3 OF THEM ARE SOLD, AND ON TUESDAY, 1/4 OF THE REMAINING APPLES ARE SOLD. HOW MANY APPLES ARE LEFT?

- A) 60
- B) 64
- C) 70
- D) 80
- E) 90

14. HOW MANY DIFFERENT WAYS CAN YOU ARRANGE THE LETTERS A, B, AND C?

- A) 3
- B) 4
- C) 5
- D) 6
- E) 8

15. IF THE DAY AFTER TOMORROW IS FRIDAY, WHAT DAY WILL IT BE IN 15 DAYS?

- A) THURSDAY
- B) FRIDAY
- C) SATURDAY
- D) SUNDAY
- E) MONDAY



## **ANSWERS WITH EXPLANATIONS**

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- 1.C) 41, EXPLANATION: ORDER OF OPERATIONS:  $15 \times 3 = 45, 8 \div 2 = 4$ , THEN 45 4 = 41.
- 2.B) \$30, EXPLANATION: LET ORIGINAL PRICE = X. AFTER 20% DISCOUNT, PRICE IS 80% OF X: 0.8X = 24. SOLVE:  $X = 24 \div 0.8 = 30$ .
- 3.C) 21, EXPLANATION: THIS IS THE FIBONACCI SEQUENCE: EACH NUMBER IS THE SUM OF THE TWO BEFORE IT. 2 + 3 = 5, 3 + 5 = 8, 5 + 8 = 13, 8 + 13 = 21.
- 4.C) 40 CM<sup>2</sup>, EXPLANATION: PERIMETER = 2(LENGTH + WIDTH). SO, 26 = 2(8 + W), 13 = 8 + W, W = 5 CM. AREA = 8 × 5 = 40 CM<sup>2</sup>.
- 5.C) 150, EXPLANATION: FROM 10:45 AM TO 1:15 PM: 1 HOUR 15 MIN TO 11:45 AM (75 MIN),
- PLUS 1 HOUR 30 MIN TO 1:15 PM (90 MIN). TOTAL = 75 + 90 = 150 MINUTES.
- 6.B) 6, EXPLANATION: A CUBE HAS 6 FACES, ALL SQUARES.
- 7.B) 5/9, EXPLANATION: TOTAL MARBLES = 4 + 3 + 2 = 9. NOT RED = 3 + 2 = 5. FRACTION = 5/9.
- 8.B) 1 5/12, EXPLANATION: COMMON DENOMINATOR IS 12: 2/3 = 8/12, 3/4 = 9/12. ADD: 8/12 + 9/12 = 17/12 = 1 5/12.
- 9.B) 6, EXPLANATION: LET THE NUMBER BE X. THEN, 3X + 7 = 25. SUBTRACT 7: 3X = 18. DIVIDE BY 3: X = 6.
- 10.C) 10, EXPLANATION: RATIO 3:2 MEANS 3 BOYS PER 2 GIRLS. IF 15 BOYS, THEN (15 ÷ 3) × 2 = 5 × 2 = 10 GIRLS.
- 11.C) 45, EXPLANATION: DIVISIBLE BY 5 (ENDS IN 0 OR 5) AND 9 (SUM OF DIGITS DIVISIBLE BY 9). 45: 4 + 5 = 9, DIVISIBLE BY 9; ENDS IN 5, DIVISIBLE BY 5.
- 12.B) 24 CM<sup>2</sup>, EXPLANATION: AREA OF A TRIANGLE = (BASE × HEIGHT)  $\div$  2 = (6 × 8)  $\div$  2 = 48  $\div$  2 = 24 CM<sup>2</sup>.
- 13. A) 60, EXPLANATION: MONDAY: 1/3 OF 120 = 40 SOLD, 120 40 = 80 LEFT. TUESDAY: 1/4 OF 80 = 20 SOLD, 80 20 = 60 LEFT.
- 14.D) 6, EXPLANATION: NUMBER OF ARRANGEMENTS OF 3 DISTINCT LETTERS = 3! = 3 × 2 × 1 = 6 (E.G., ABC, ACB, BAC, BCA, CAB, CBA).
- 15.C) SATURDAY, EXPLANATION: TODAY IS WEDNESDAY (DAY AFTER TOMORROW IS FRIDAY).
  15 DAYS = 2 WEEKS (14 DAYS) + 1 DAY. 14 DAYS FROM WEDNESDAY IS TUESDAY, +1 DAY = WEDNESDAY, BUT ADJUST CYCLE: 15 MOD 7 = 1, SO SATURDAY.