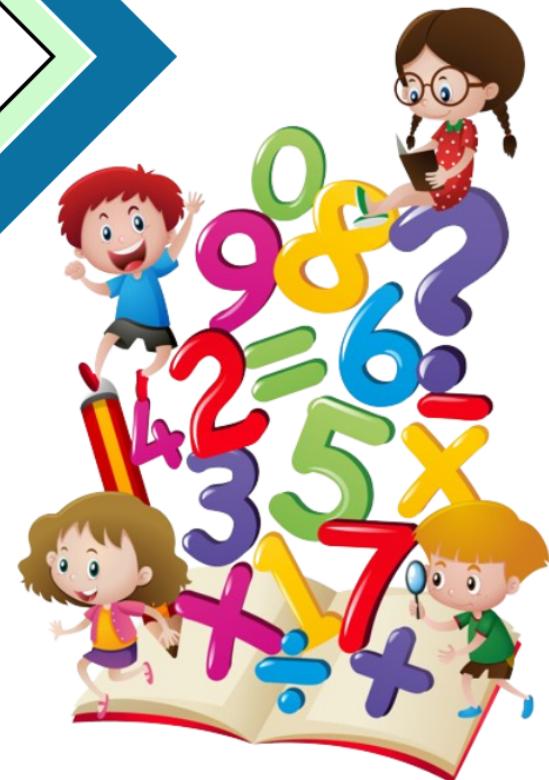




#CRESTInnovator



# CREST Mathematics Olympiad (CMO) Worksheet for Class 8



**Topic**  
**Playing with Numbers**



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## Worksheet on Playing with Numbers

1. What is the difference between P and Q in the given problem?

  
$$\begin{array}{r} 21546 \\ \times \quad 9P \\ \hline 150Q22 \\ 193914x \\ \hline 20Q9962 \end{array}$$

- a. 0
- b. -1
- c. -2
- d. 2

2. What is the value of a, b and c in the following expression?

$$a75 - 372 + 72b - 365 + 9c2 = 1801$$

- a. a = 4, b = 1, c = 8
- b. a = 4, b = 2, c = 8
- c. a = 8, b = 1, c = 4
- d. a = 8, b = 2, c = 4

3. If 57AB91 is divisible by 11, then which of the following relationships between A and B is true?

- a. A = B - 5 or A = -6 - B
- b. B = A - 5 or A = -6 - B
- c. A = B - 5 or A = -6 + B
- d. B = A - 5 or A = -6 + B

4. In a two-digit number, the sum of the digits is 11. If the difference between a number and the number obtained by reversing the digits is 27, then what is the number?

- a. 37
- b. 47
- c. 73
- d. 74

5. In a three-digit number, the sum of a hundred's place digit and a unit's place digit is 7. The ten's place digit is two-fifths of a hundred place digit. If the difference between a three-digit number and a number obtained by reversing the digits is 297, what is the number obtained by reversing the digits?

- a. 225
- b. 522
- c. 235
- d. 532

## Answer Key

1. b – (-1)

**Explanation:** The value of P should be between 1 and 9 to satisfy the multiplication. Further, the multiplication is performed as follows:

The image shows a handwritten multiplication problem. At the top, there are two rows of numbers: 1 4 4 5 and 1 3 3 4. Red annotations above the first row say "Carry while multiplying by 9." and above the second row say "Carry while multiplying by 7." Below these are the numbers 2 1 5 4 6 and 9 7. A horizontal line separates them from the partial products: 1 5 0 8 2 2 and 1 9 3 9 1 4 x. Another horizontal line separates these from the final result: 2 0 8 9 9 6 2. The digit 8 in the first partial product is highlighted in green.

Difference between P and Q in the given problem =  $7 - 8 = -1$

2. c - a = 8, b = 1, c = 4

**Explanation:** The arithmetical operations are shown as:

The image shows a series of handwritten arithmetic operations. It starts with a subtraction problem:  $\begin{array}{r} \boxed{a} \\ 875 \\ - 372 \\ \hline 503 \end{array}$ . Next is an addition problem:  $\begin{array}{r} 6 \\ + 72\boxed{1} \\ \hline 1224 \end{array}$ . Then another subtraction problem:  $\begin{array}{r} \\ - 365 \\ \hline 859 \end{array}$ . Finally, a multiplication problem:  $\begin{array}{r} \boxed{c} \\ 9\boxed{4}2 \\ \hline 1801 \end{array}$ . The digit 6 in the first addition step is highlighted in red.





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