

# 乘法公式

## Short Multiplication Formulas

Class: \_\_\_\_\_ Name: \_\_\_\_\_

### I. Similar Questions from the class handout

1. Calculate  $899 \times 1098$

Answer: 987102

2. Calculate  $70.2^2$

Answer: 4828.04

3. Calculate  $298^2 + 2 \times 298 \times 2 + 2^2$

Answer: 90000

4. Calculate  $\left(23\frac{5}{8}\right)^2$

Answer:  $558\frac{9}{64}$

5. Calculate  $201^2 - 2 \times 200 \times 1 + 1$

Answer: 40000

6. Calculate  $10101 \times 9899$

Answer: 99989799

7. Calculate  $22.5^2 - 77.5^2$

Answer: -5500

## II. Other Questions

1. What is the result of expanding  $(-a+b)(-c-d)$ ?

Answer:  $ac - bc + ad - bd$

2. Using the distributive property, which integer is closest to  $20.1 \times 19.6$ ?

- (A) 380
- (B) 393
- (C) 394
- (D) 400

Answer: (C)

3. Given that  $998 \times 203 = (a-2)(200+3) = b$ , which of the following is correct?

- (A)  $a = 100$
- (B)  $a = 900$
- (C)  $b = 22594$
- (D)  $b = 202594$

Answer: (D)

4. The result of  $8\frac{2}{3} \times 9\frac{1}{4}$  can express as  $m + \frac{1}{n}$ , where both  $m$  and  $n$  are positive integers. What is  $m+n$ ?

Answer: 86

5. If  $398^2 = 400^2 - K$ , then what is the value of  $K$ ?

Answer: 1596

6. Which of the following is correct?

- (A)  $(8+3)^2 = 8^2 + 3^2$
- (B)  $(6-1)^2 = 6^2 - 1^2$
- (C)  $(9-5)^2 = 9^2 - 2 \times 9 \times 5 - 5^2$
- (D)  $(7+2)(7-2) = 7^2 - 2^2$

Answer: (D)

7. Which of the following numbers is closest to  $60.3^2$ ?

- (A) 3600
- (B) 3618
- (C) 3636
- (D) 3650

Answer: (C)

8. Assuming  $a = 30^2 - 19^2$ , which of the following is **not** a factor of  $a$ ?

- (A) 1
- (B) 7
- (C) 11
- (D) 19

Answer: (C)

9. If  $333^2 - 111^2 = 111 \times \square$ , then what is  $\square$ ?

Answer: 888

10. How many digits does the result of  $234567^2 - 34567^2$  have?

Answer: 11

11. If  $188^2 + 192^2 = 2 \times 190^2 + n$ , then what is  $n$ ?

Answer: 8

12. Assuming  $x + y = -5$  and  $xy = -24$ , what is  $(x - y)^2$ ?

Answer: 121

13. Which of the following expressions is largest?

- (A)  $300.5^2 - 299.5^2$
- (B)  $301.5^2 - 300.5^2$
- (C)  $302.5^2 - 301.5^2$
- (D)  $303.5^2 - 302.5^2$

Answer: (D)

14. If  $7 \times (8^2 + 1) \times 9 \times (8^4 + 1) = 2^n - 1$ , then what is  $n$ ?

Answer: 24

製作者：臺北市敦化國中 劉家宇