4-1-7-B

Compute Solutions & Order of Operations

1. Simplify the following expression:

$$12 \times (-4)$$

Write your response here:
(show your work)

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2. 90×0.03

Write your response here:
(show your work)

---

3. Simplify the following expression:

$$(-108) \div (-9)$$

Write your response here:
(show your work)

4. 28.2 + 49.8

Write your response here:
(show your work)

5. -25.8 + 83.2

Write your response here:
(show your work)

6. Simplify:

$41 - 3 \times (7 - 5)^2$

- **A.** 29
- **B.** 28
- **C.** 31
- **D.** 36

7. Simplify:

$(1 + 7) \times 5 - 3$

8. Simplify:

$2 \times 2^2 + 8 \div 4 - (5 + 2)$

- **A.** 5
- **B.** 7
- **C.** 13
- **D.** 3

---

9. Simplify:

$16 - (4 + 6) - 6 \div 2$

- **A.** 5
- **B.** 15
- **C.** 9
- **D.** 3

---

10. Simplify:

$29 - 3 \times 8 + 5^2$

- **A.** 30
- **B.** 43
- **C.** 233
- **D.** -70

Answers

1. -48
2. 2.7
3. 12
4. 78
5. 57.4
6. A
7. 37
8. D

9. D
10. A

Explanations

1. A positive times a negative is equal to the negative of the product of the absolute values.

   = 12 × (-4)
   = -(12 × 4)
   = -48

2. To multiply a decimal number by a whole number count the number of decimal places. 0.03 has **2** decimal places.

   Pretend that the decimal is gone and multiply the numbers together.
   90 × 3 = 270

   Since we originally had 2 decimal places, we need move the decimal 2 places to the left in the answer.
   90 × 0.03 = **2.7**

3. A negative divided by a negative is equal to the absolute value of the negative (108) divided by the absolute value of the positive (9).

   = (-108) ÷ (-9)
   = 108 ÷ 9
   = 12

4. Make sure you line up the decimals when adding decimals:

```
  28.2
+ 49.8
------
  78
```

5. -25.8 + 83.2 = 83.2 + (-25.8) = 83.2 - 25.8

   Make sure you line up the decimals when subtracting decimals:

```
  83.2
- 25.8
------
  57.4
```

6. Order of Operations:
   1. Parentheses or Brackets from the inside out.

2. Exponents
3. Multiplication and Division from left to right.
4. Addition and Subtraction from left to right.

$$41 - 3 \times (7 - 5)^2 = 41 - 3 \times 2^2$$
$$= 41 - 3 \times 4$$
$$= 41 - 12$$
$$= \mathbf{29}$$

7. Order of Operations:
   1. Parentheses or Brackets from the inside out.
   2. Exponents
   3. Multiplication and Division from left to right.
   4. Addition and Subtraction from left to right.

$$(1 + 7) \times 5 - 3 = 8 \times 5 - 3$$
$$= 40 - 3$$
$$= \mathbf{37}$$

8. Order of Operations:
   1. Parentheses or Brackets from the inside out.
   2. Exponents
   3. Multiplication and Division from left to right.
   4. Addition and Subtraction from left to right.

$$2 \times 2^2 + 8 \div 4 - (5 + 2) = 2 \times 2^2 + 8 \div 4 - 7$$
$$= 2 \times 4 + 8 \div 4 - 7$$
$$= 8 + 8 \div 4 - 7$$
$$= 8 + 2 - 7$$
$$= 10 - 7$$
$$= \mathbf{3}$$

9. Order of Operations:
   1. Parentheses or Brackets from the inside out.
   2. Exponents
   3. Multiplication and Division from left to right.
   4. Addition and Subtraction from left to right.

$$16 - (4 + 6) - 6 \div 2 = 16 - 10 - 6 \div 2$$
$$= 16 - 10 - 3$$
$$= 6 - 3$$
$$= \mathbf{3}$$

10. Order of Operations:
    1. Parentheses or Brackets from the inside out.
    2. Exponents
    3. Multiplication and Division from left to right.
    4. Addition and Subtraction from left to right.

$$29 - 3 \times 8 + 5^2 = 29 - 3 \times 8 + 25$$
$$= 29 - 24 + 25$$

= 5 + 25

= **30**