

6.EE.A.2 Order of Operations

6.EE.A.2 Write, read, and evaluate expressions in which letters stand for numbers.

- 1 On February 18, from 9 a.m. until 2 p.m., the temperature rose from -14°F to 36°F . What was the total increase in temperature during this time period?
 - 1) 50°
 - 2) 36°
 - 3) 32°
 - 4) 22°
- 2 What is the first step in simplifying the expression $(2 - 3 \times 4 + 5)^2$?
 - 1) square 5
 - 2) add 4 and 5
 - 3) subtract 3 from 2
 - 4) multiply 3 by 4
- 3 If the expression $3 - 4^2 + \frac{6}{2}$ is evaluated, what would be done *last*?
 - 1) subtracting
 - 2) squaring
 - 3) adding
 - 4) dividing
- 4 The expression $15 - 3[2 + 6(-3)]$ simplifies to
 - 1) -45
 - 2) -33
 - 3) 63
 - 4) 192
- 5 The expression $-|-7|$ is equivalent to
 - 1) 1
 - 2) 0
 - 3) 7
 - 4) -7
- 6 The value of the expression $|-20| - |6|$ is
 - 1) 26
 - 2) 14
 - 3) -14
 - 4) -26
- 7 An expression equivalent to $3!$ is
 - 1) $3 \cdot 3$
 - 2) $3 \cdot 2 \cdot 1$
 - 3) $3 \cdot 3 \cdot 3$
 - 4) -3
- 8 The value of $5!$ is
 - 1) $\frac{1}{5}$
 - 2) 5
 - 3) 20
 - 4) 120
- 9 The value of $\frac{7!}{3!}$ is
 - 1) 840
 - 2) 24
 - 3) 7
 - 4) 4
- 10 What is the value of $\frac{8!}{4!}$?
 - 1) 1,680
 - 2) 2
 - 3) $2!$
 - 4) $4!$
- 11 What is the value of $\left| \frac{4(-6) + 18}{4!} \right|$?
 - 1) $\frac{1}{4}$
 - 2) $-\frac{1}{4}$
 - 3) 12
 - 4) -12
- 12 The value of the expression $6! + \frac{5!(3!)}{4!} - 10$ is
 - 1) 50
 - 2) 102
 - 3) 740
 - 4) 750

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Answer Key

6.EE.A.2 Write, read, and evaluate expressions in which letters stand for numbers.

1 ANS: 1

$$36 - (-14) = 50$$

2 ANS: 4

Using the acronym PEMDASLR indicates that operations inside the expression's parentheses should be performed first. Multiplication precedes addition.

3 ANS: 3

Using the acronym PEMDASLR indicates that addition and subtraction operations should be performed from left to right. Since the addition is to the right of the subtraction, the addition would be done last.

4 ANS: 3

$$15 - 3[2 + 6(3)] = 15 - 3[2 + (-18)] = 15 - 3[-16] = 15 + 48 = 63$$

5 ANS: 4

$$-|-7| = -(+7) = -7$$

6 ANS: 2

7 ANS: 2

8 ANS: 4

$$5! = 5 \times 4 \times 3 \times 2 \times 1 = 120$$

9 ANS: 1

$$\frac{7!}{3!} = \frac{7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1}{3 \times 2 \times 1} = 840$$

11 ANS: 1

$$\left| \frac{4(-6) + 18}{4!} \right| = \left| \frac{-6}{24} \right| = \frac{1}{4}$$

10 ANS: 1

$$\frac{8!}{4!} = \frac{8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1}{4 \times 3 \times 2 \times 1} = 1,680$$

12 ANS: 3

$$6! + \frac{5!(3!)}{4!} - 10 = 720 + 5(6) - 10 = 740$$