

Objective #3

Evaluate expressions for given values

1. Evaluate $(3e + 2f)^2$ for $e = -2$ and $f = 4$.

[A] 4

[B] 196

[C] -2

[D] 100

① Substitute $e = -2$ and $f = 4$

$$(3(-2) + 2(4))^2$$

② Simplify

$$(-6 + 8)^2$$

$$2^2 = 4$$

2. Evaluate $2y^2(x + y)$ when $x = 1$ and $y = 4$.

[A] 240

[B] 36

[C] 68

[D] 160

① Substitute $x = 1$ and $y = 4$

$$2 \cdot 4^2(1 + 4)$$

② Simplify

$$2 \cdot 16(5) = 160$$

3. Evaluate the formula $w = x(y + z)$ for $x = 4$, $y = 2\frac{3}{4}$, and $z = \frac{3}{4}$.

[A] 14

[B] $1\frac{3}{4}$

[C] $\frac{1}{14}$

[D] $1\frac{1}{11}$

① Substitute

$$w = 4 \left(2\frac{3}{4} + \frac{3}{4} \right)$$

$$w = 4 \left(\frac{11}{4} + \frac{3}{4} \right)$$

$$w = 4 \left(\frac{14}{4} \right)$$

$$w = 14$$

4. Evaluate $\frac{uv}{u + v}$ when $u = 10$ and $v = 11$.

[A] $\frac{1011}{21}$

[B] $\frac{110}{21}$

[C] 1

[D] $\frac{40}{7}$

Substitute

$$\frac{10(11)}{10 + 11} = \frac{110}{21}$$