

Assignment 1-1  
Expressions and Formulas

Chapter 1-1 (Expressions & Formulas)

Evaluate each Expression

\* <sup>what</sup> students need to know...

$$\begin{aligned} \textcircled{1} \quad & 10 + 16 \div 4 + 8 \\ & = 10 + 4 + 8 \\ & = 14 + 8 \\ & = \boxed{22} \end{aligned}$$

$\textcircled{2}$  \* Separate "Terms" & work on "Terms" individually...  
Then add Like Terms

$$\begin{aligned} \textcircled{2} \quad & [21 - (9 - 2)] \div 2 \\ & = [21 - 7] \div 2 \\ & = [14] \div 2 \\ & = 14 \div 2 \\ & = \boxed{7} \end{aligned}$$

\* Order of Operations  
→  $\textcircled{1}$  Grouping Symbols  $()$ ,  $[\ ]$ ,  
 $\textcircled{2}$  Exponents  
 $\textcircled{3}$  Mult/Div  
 $\textcircled{4}$  Add/Subt

$$\begin{aligned} \textcircled{3} \quad & \frac{1}{2}(5^2 + 3) \\ & = \frac{1}{2}(25 + 3) \\ & = \frac{1}{2}(28) \\ & = \boxed{14} \end{aligned}$$

\* Order of Operations

$$\begin{aligned} \textcircled{4} \quad & \frac{14(8 - 15)}{2} \\ & = \frac{14(-7)}{2} \\ & = \frac{-98}{2} \\ & = \boxed{-49} \end{aligned}$$

\* Must recognize division bar as a "grouping symbol" that separates Numerator & Denominator

Assignment 1-1  
Expressions and Formulas

Chapter 1-1, continued

Evaluate Each Expression if  $a=12$ ,  $b=0.5$ ,  $c=-3$ , and  $d=\frac{1}{3}$ .

$$\begin{aligned} (15) \quad & 6b - 5c \\ &= 6(0.5) - 5(-3) \\ &= 3.0 + 15 \\ &= \boxed{18} \end{aligned}$$

$$\begin{aligned} (16) \quad & c^3 + ad \\ &= (-3)^3 + (12)(\frac{1}{3}) \\ &= -27 + 4 \\ &= \boxed{-23} \end{aligned}$$

$$\begin{aligned} (17) \quad & \frac{9c + ab}{c} \\ &= \frac{9(-3) + (12)(0.5)}{-3} \\ &= \frac{-27 + 6}{-3} \\ &= \frac{-21}{-3} \\ &= \boxed{7} \end{aligned}$$

$$\begin{aligned} (18) \quad & a[b^2(b+a)] \\ &= 12[(0.5)^2(0.5+12)] \\ &= 12[(0.25)(0.5+12)] \\ &= 12[(0.25)(12.5)] \\ &= 12[3.125] \\ &= \boxed{37.5} \end{aligned}$$

\* Student must replace variable with its appropriate value, using parenthesis is HIGHLY Recommended

\* Students must know multiplication rules

$$(+)(+) = (+)$$

$$(+)(-) = (-)$$

$$(-)(+) = (-)$$

$$(-)(-) = (+)$$

\* Calculators are useful & acceptable... but ONLY for single calculations... using a calculator to compute the entire expression at once leads to incorrect answers (some calculators don't understand/compute order of operations)

Assignment 1-1  
Expressions and Formulas

$$(19) \quad d = r \cdot t$$

$$\Rightarrow d = 65 \cdot 4$$

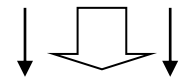
$$\Rightarrow \boxed{d = 260 \text{ miles}}$$

\* Students should  
remember to put  
the units on the  
answer.

Assignment 1-1  
Expressions and Formulas

Evaluate each expression.

$$10 + 16 \div 4 + 8$$



$$10 + 4 + 8 = \boxed{\phantom{00}}$$

A) 22

B) 10

$$[21 - (9 - 2)] \div 2$$

$$[21 - (7)] \div 2$$

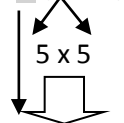
$$21 - 7 = 14$$

$$14 \div 2 = \boxed{\phantom{00}}$$

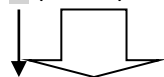
A) -7

B) 7

$$\frac{1}{2} (5^2 + 3)$$



$$\frac{1}{2} (25 + 3)$$



$$\frac{1}{2} \times 28 = \boxed{\phantom{00}}$$

A) 28.5

B) 14

$$\frac{14(8-15)}{2}$$

$$\frac{14(8-15)}{2}$$

$$8 - 15 = -7$$

$$14(-7) = -98$$

$$\frac{-98}{2} = -98 \div 2 = \boxed{\phantom{00}}$$

A) -49

B) 49

Assignment 1-1  
Expressions and Formulas

Evaluate each expression if  $a = 12$ ,  $b = 0.5$ ,  $c = -3$ ,  $d = 1/3$

Diagram for  $6b - 5c$ :

```

graph TD
    A["6b - 5c"] --> B["6 x 0.5 = 3"]
    A --> C["5 x -3 = -15"]
    B --> D["3 - -15 = "]
    
```

Options:

A) 15.3  
B) 18

Diagram for  $c^3 + ad$ :

```

graph TD
    A["c^3 + ad"] --> B["-3 x -3 x -3 = -27"]
    A --> C["12 x 1/3 = 4"]
    B --> D["-27 + 4 = "]
    C --> D
    
```

Options:

A) -23  
B) 23

Diagram for  $\frac{9c+ab}{c}$ :

```

graph TD
    A["(9c+ab)/c"] --> B["9 x -3 = -27"]
    A --> C["12 x .5 = 6"]
    B --> D["-27 + 6 = -27 + 6"]
    C --> D
    D --> E["(-27 + 6) / -3 = "]
    
```

Options:

A) 7  
B) -7

Assignment 1-1  
Expressions and Formulas

Evaluate each expression if  $a = 12$ ,  $b = 0.5$ ,  $c = -3$ ,  $d = 1/3$

$$a[b^2(b + a)]$$

$$12 [ .5^2 (.5 + 12)]$$

$$12 [ .5^2 (12.5)]$$

$$12 [ .5 \times .5 = .25$$

$$12 [ .25 \times 12.5 ]$$

$$12 \times 3.125 =$$

- A) 37.5  
B) 15.125

**DISTANCE**

The formula to evaluate distance is  $d = r \times t$ , where  $d$  is distance,  $r$  is rate, and  $t$  is time. How far can Tosha drive in 4 hours if she is driving at 65 miles per hour?

$$d = r \times t$$

$$65 \times 4 =$$

$$d = \text{miles}$$

- A) 61  
B) 260

Assignment 1-1  
Expressions and Formulas

Evaluate each expression.

$$10 + 16 \div 4 + 8$$

$$10 + 4 + 8 = \boxed{\phantom{00}}$$


---

$$[21 - (9 - 2)] \div 2$$

$$[21 - (7)] \div 2$$

$$21 - 7 = 14$$

$$14 \div 2 = \boxed{\phantom{00}}$$


---

$$\frac{1}{2} (5^2 + 3)$$

$$\frac{1}{2} (25 + 3)$$

$$\frac{1}{2} (25 + 3)$$

$$\frac{1}{2} \times 28 = \boxed{\phantom{00}}$$


---

$$\frac{14(8-15)}{2}$$

$$\frac{14(8-15)}{2}$$

$$8 - 15 = -7$$

$$14 (-7) = -98$$

$$\frac{-98}{2} = -98 \div 2 = \boxed{\phantom{00}}$$

Assignment 1-1  
Expressions and Formulas

Evaluate each expression if  $a = 12$ ,  $b = 0.5$ ,  $c = -3$ ,  $d = 1/3$

$$6b - 5c$$

$$6 \times 0.5 = 3$$

$$5 \times -3 = -15$$

$$3 - -15 = \boxed{\phantom{00}}$$

$$c^3 + ad$$

$$-3 \times -3 \times -3 = -27$$

$$12 \times 1/3 = 4$$

$$-27 + 4 = \boxed{\phantom{00}}$$

$$\frac{9c + ab}{c}$$

$$9 \times -3 = -27$$

$$12 \times .5 = 6$$

$$-27 + 6 = -27 + 6$$

$$\frac{-27 + 6}{-3} = -21 \div -3 = \boxed{\phantom{00}}$$



Assignment 1-1  
Expressions and Formulas

Evaluate each expression if  $a = 12$ ,  $b = 0.5$ ,  $c = -3$ ,  $d = 1/3$

$$a[b^2(b + a)]$$

$$12 [ .5^2 (.5 + 12)]$$

$$12 [ .5^2 (12.5)]$$

$$12 [ .5^2 (12.5)]$$

$$12 [ .5 \times .5 = .25 \quad (12.5)]$$

$$12 [ .25 \times 12.5 ]$$

$$12 \times 3.125 = \boxed{\phantom{000}}$$

**DISTANCE**

The formula to evaluate distance is  $d = r \times t$ , where  $d$  is distance,  $r$  is rate, and  $t$  is time. How far can Tosha drive in 4 hours if she is driving at 65 miles per hour?

$$d = r \times t$$

$$65 \times 4 = \boxed{\phantom{000}}$$

$$d = \boxed{\phantom{000}} \text{ miles}$$

Assignment 1-1  
Expressions and Formulas

Evaluate each expression.

$$10 + 16 \div 4 + 8$$


---

$$[21 - (9 - 2)] \div 2$$

$$[21 - (\text{ })] \div 2$$

$$21 - \text{ } = \bigcirc$$

$$\bigcirc \div 2 = \square$$


---

$$\frac{1}{2} (5^2 + 3)$$

$$\frac{1}{2} (\text{ } + 3)$$

$$\text{ } \times \text{ } = \square$$


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$$\frac{14(8-15)}{2}$$

$$\frac{14(\text{ })}{2}$$

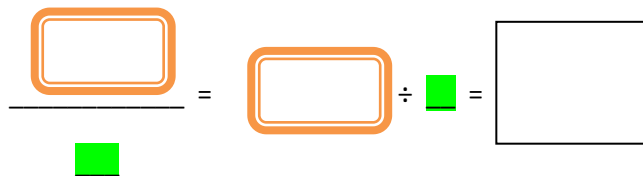
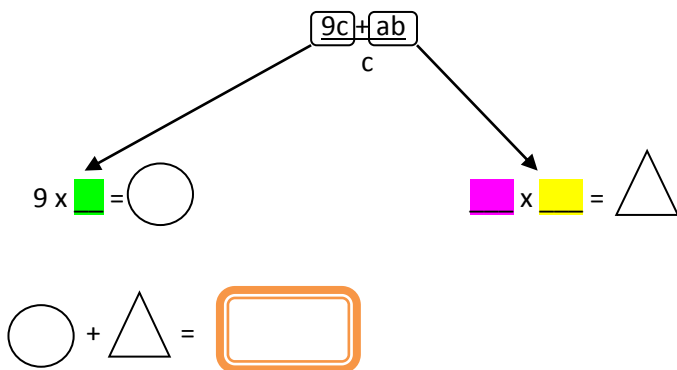
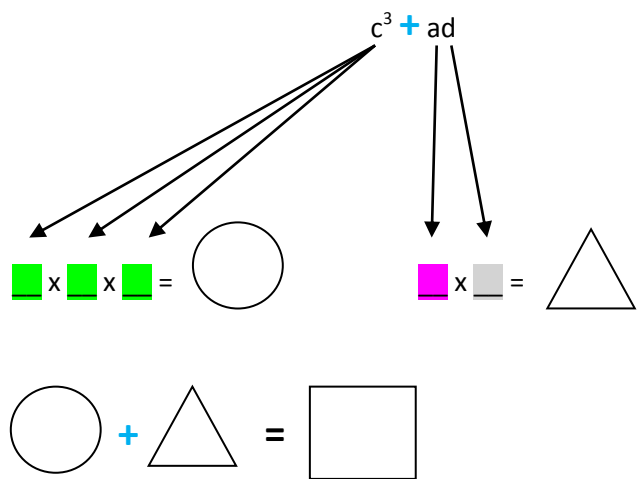
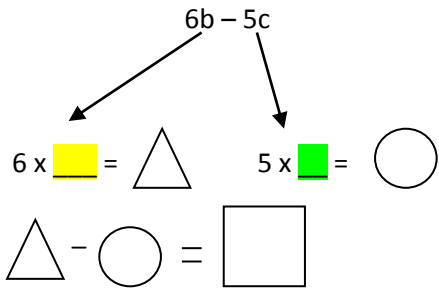
$$\text{ } = \text{ }$$

$$14 \times \text{ } = \text{ }$$

$$\frac{\text{ }}{\text{ }} = \text{ } \div \text{ } = \square$$

Assignment 1-1  
Expressions and Formulas

Evaluate each expression if  $a = 12$ ,  $b = 0.5$ ,  $c = -3$ ,  $d = 1/3$



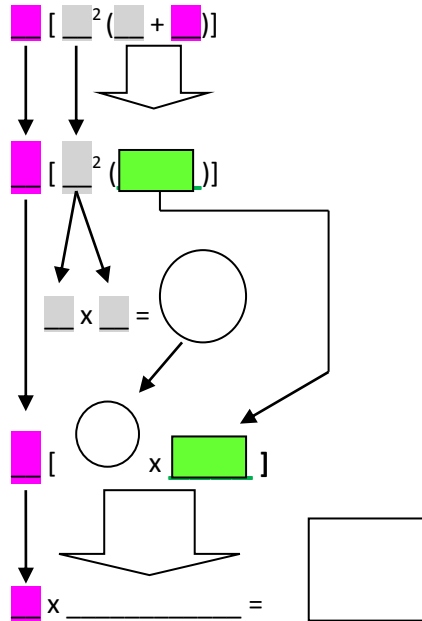
Closed Strategy

# Assignment 1-1

## Expressions and Formulas

Evaluate each expression if  $a = 12$ ,  $b = 0.5$ ,  $c = -3$ ,  $d = 1/3$

$$a[b^2(b + a)]$$



### DISTANCE

The formula to evaluate distance is  $d = r \times t$ , where  $d$  is distance,  $r$  is rate, and  $t$  is time. How far can Tosha drive in 4 hours if she is driving at 65 miles per hour?

$$d = r \times t$$

$\text{65} \times \text{4} = \text{[ ]}$   
 $d = \text{[ ]} \text{ miles}$

Assignment 1-1  
Expressions and Formulas

Evaluate each expression.

$$10 + 16 \div 4 + 8$$

$$[21 - 9(9 - 2)] \div 2$$

$$\frac{1}{2}(5^2 + 3)$$

$$\frac{14(8 - 15)}{2}$$

Evaluate each expression if  $a = 12$ ,  $b = 0.5$ ,  $c = -3$ ,  $d = 1/3$

$$6b - 5c$$

$$C^3 + ad$$

$$\frac{9c + ab}{C}$$

$$a[b^2(b + a)]$$

**DISTANCE**

The formula to evaluate distance is  $d = r \times t$ , where  $d$  is distance,  $r$  is rate, and  $t$  is time. How far can Tosha drive in 4 hours if she is driving at 65 miles per hour?

Open-Ended

Assignment 1-1  
Expressions and Formulas

**Evaluate** each expression.

$$10 + 16 \div 4 + 8$$

$$[21 - 9(9 - 2)] \div 2$$

$$\frac{1}{2}(5^2 + 3)$$

$$\frac{14(8 - 15)}{2}$$

**Evaluate** each expression if  $a = 12$ ,  $b = 0.5$ ,  $c = -3$ ,  $d = 1/3$

$$6b - 5c$$

$$c^3 + ad$$

$$\frac{9c + ab}{c}$$

$$a[b^2(b + a)]$$

**DISTANCE**

The formula to evaluate distance is  $d = r \times t$ , where  $d$  is distance,  $r$  is rate, and  $t$  is time. How far can Tosha drive in 4 hours if she is driving at 65 miles per hour?