

Warm-Up

September 28, 2015

a)  $-2\frac{1}{2} + 3\frac{1}{4} - 2\frac{1}{6}$

$$\overset{\times 6}{\cancel{6}} \frac{-5}{2} + \frac{13 \overset{\times 3}{\cancel{3}}}{4 \overset{\times 3}{\cancel{3}}} - \frac{13 \overset{\times 2}{\cancel{2}}}{6 \overset{\times 2}{\cancel{2}}}$$

$$\boxed{\frac{-30}{12} + \frac{39}{12} - \frac{26}{12}}$$

$$\frac{35}{12} = 2\frac{11}{12}$$

b)  $-3\frac{1}{2} \times 2\frac{1}{6} \div 1\frac{1}{5}$

$$\frac{-7}{2} \times \frac{13}{6} \div \frac{-6}{5} \overset{\text{flip}}{\leftarrow}$$

$$\frac{-7}{2} \times \frac{13}{6} \times \frac{5}{6}$$

$$\frac{455}{72} = 6\frac{23}{72}$$

# Orders of Operations

# BEDMAS

brackets

exponents

division

multiplication

addition

subtraction

order they appear

order they appear

## Orders of Operation

1.  $3 \times 2 + 9$

$$\begin{array}{r} 6 + 9 \\ 15 \end{array}$$

2.  $7 \times 6 + 4 \times 2$

$$\begin{array}{r} 42 + 4 \times 2 \\ 42 + 8 \\ 50 \end{array} \qquad \begin{array}{r} 42 + 8 \\ 50 \end{array}$$

$$3. \quad \underline{8 \div 2} \times 9$$
$$4 \times 9$$
$$36$$

$$4. \quad 24 - 7 \times 2$$
$$24 - 14$$
$$10$$

$$5. \quad \underline{36 \div 9} + 7$$

$$4 + 7$$

$$11$$

$$6. \quad 42 \div (6 - 3)$$

$$42 \div 3$$

$$14$$

7.  $(4 + 3 \times 2) - 10$

$$(4 + 6) - 10$$

$$10 - 10$$

$$0$$

8.  $(10 - 2 \times 2) \times 3$

$$(10 - 4) \times 3$$

$$6 \times 3$$

$$18$$

$$9. \frac{4 \times 2 + 3 \times 6}{2 \times 7 - 1}$$

$$\frac{8 + 3 \times 6}{14 - 1}$$

$$\frac{8 + 18}{13}$$

$$\frac{26}{13}$$

$$\textcircled{2}$$

$$10. \frac{27 \div 3 + 1}{2 \times 2 + 1}$$

$$\frac{9 + 1}{4 + 1}$$

$$\frac{10}{5}$$

$$\textcircled{2}$$

Worksheet #1, #5

Plus

$$a) \frac{6 \times 3 + 3 \times 7}{6 \times 4 - 11}$$

$$b) \frac{64 \div 4 + (2 \times 4)}{8 \times 5 + 6 - (2 \times 19)}$$

$$c) (15 + 6 \times 2) - (8 \times 2 \div -4)$$



1. Evaluate.

a.  $3 \times 2 + 9$       b.  $7 \times 6 + 4 \times 2$   
 c.  $7 + 2 \times 9$       d.  $24 - 7 \times 2$   
 e.  $36 \div 9 + 7$       f.  $42 \div 6 - 3$   
 g.  $(4 + 3 \times 2) - 10$       h.  $(7 \times 2 - 1) + 6$   
 i.  $(10 - 2 \times 2) \times 3$       ~~j.  $(14 - 3^2) \times 6$~~   
 k.  $(12 - 2 \times 4)^2 - 2$       ~~l.  $(13 - 5 \times 2)^2 + 1$~~   
 m.  $\frac{4 \times 2 + 3 \times 6}{2 \times 7 - 1}$       n.  $\frac{12 \times 3 - 4}{4 \times 2}$   
 o.  $\frac{10 \times 3 - 5 \times 4}{2 + 4 \times 2}$       ~~p.  $\frac{17 - 5 \times 2}{4^2 - 3^2}$~~   
 q.  $\frac{27 - 3 + 1}{2 \times 2 + 1}$       ~~r.  $\frac{4^2 - 3^2 - 1}{3^2 - 1}$~~

2. Use parentheses to rewrite the expression  $29 - 3 \times 2 + 4$  so that it gives this result.

a. 56      b. 11      c. 19

3. Copy and insert parentheses to make a true statement.

a.  $3 + 7 \times 2 + 6^2 - 1 = 4$   
 b.  $7 - 2 \times 2 + 3 - 5 = 0$   
 c.  $3^2 \times 2^2 - 4 \times 3 + 1 = 4$   
 d.  $3 \times 2 + 1 + 2 \times 4 + 3 = 5$

4. Copy and correctly complete the equation using +, -, x, or  $\div$ .

a.  $3 \square 2 \square 4 \square 1 = 25$       b.  $7 \square 4 \square 2 \square 8 = 22$   
 c.  $3 \square 10 \square 4 \square 5 = 11$       d.  $20 \square 3 \square 6 \square 4 = 6$

5. Use the number decoder to determine the message below by evaluating the following.

A	B	C	D	E	F	G	H	I	J
1	2	3	4	5	6	7	8	9	10

K	L	M	N	O	P	Q	R	S	T
11	12	13	14	15	16	17	18	19	20

U	V	W	X	Y	Z
21	22	23	24	25	26

a.  $60 - 56 + 2 - 19$       \_\_\_\_\_  
 b.  $(3 \times 7 - 5) - 2 - 7$       \_\_\_\_\_  
 c.  $10 \times 5 - 10 \times 2 - 10 \times 1$       \_\_\_\_\_  
 d.  $2(30 - 15 - 10) - 2$       \_\_\_\_\_  
 e.  $(4 - 2) - 2 \times 9 + 14 + 7 - 2$       \_\_\_\_\_  
 f.  $40 - 6 \times 5 + 6 - 2 \times 3$       \_\_\_\_\_  
 g.  $10 \times 6 - 15 - 2$       \_\_\_\_\_  
 h.  $60 + 3 - 10 + 5 \times 8 + 1$       \_\_\_\_\_  
 i.  ~~$(3^2 - 2^2) \times 2 - 9$~~       \_\_\_\_\_  
 j.  $5 \times 7 + 10 \times 2 - 5 - 9 \times 2$       \_\_\_\_\_  
 k.  ~~$(4 + 3 \times 2)^2 - 8 \times 2 \times 5$~~       \_\_\_\_\_  
 l.  $(21 + 9) + 10 + 6$       \_\_\_\_\_  
 m.  $\frac{10 \times 2 - 2}{2 \times 2 - 1}$       \_\_\_\_\_  
 n.  ~~$\frac{2 \times 3 - 7}{1}$~~       \_\_\_\_\_  
 o.  $21 - 10 \times 2 + 11$       \_\_\_\_\_

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1. a. 15      b. 50      c. 25      d. 10      e. 11      f. 4  
 g. 0      h. 19      i. 18      j. 65      k. 8      l. 50  
 m. 2      n. 4      o. 1      p. 1      q. 2      r. 5  
 2. a.  $(29 - 3) \times 2 + 4$   
 b.  $29 - 3 \times (2 + 4)$   
 3. a.  $(3 + 7) \times 2 + (6 - 1) = 4$   
 b.  $(7 - (2 \times 2 + 3)) + 5 = 0$   
 c.  $3^2 \times 2^2 - (4 \times 3) + 1 = 4$   
 d.  $(3 \times 2 + 1) + 2 \times (4 + 3) = 5$   
 4. Answers may vary.  
 a.  $3 \times 2 \times 4 + 1 = 25$       b.  $7 \times 4 + 2 - 8 = 22$   
 c.  $3 + 10 \times 4 + 5 = 11$       d.  $20 - 3 \times 6 + 4 = 6$   
 5. a. 13      b. 1      c. 20      d. 8      e. 9  
 f. 2      g. 2      h. 5      i. 1      j. 21  
 k. 20      l. 9      m. 6      n. 12      o. 12