

## MAT 1275CO - Chapter 1.1.3 Problem Set

Express answers as improper fractions when appropriate. Do not use decimals.

- Evaluate.
  - $3 + [6(11 + 1 - 4)] \div 8 \times 2$
  - $7 + 6(5) \div 2 - 2(12 \div 4 \times 2)$
  - $20 \times 2 - (\frac{1}{2})(16) + (-2)$
  - $30 - 8 \times 5 \div (-12 + 2(11))$
- Evaluate  $3x - (-\frac{4}{2x})$  when  $x = 2$ .
- Evaluate  $3a - b$  when  $a = \frac{5}{3}$  and  $b = -1$ .
- Evaluate  $3(\frac{x-y}{2z} + yz)$  when  $x = 4$ ,  $y = 3$ , and  $z = 2$ .
- Evaluate  $(x - y) - 2(y - x)$  when  $x = \frac{9}{2}$  and  $y = \frac{3}{4}$ .
- Evaluate  $\frac{a+2b}{c-d}$  when  $a = \frac{3}{5}$ ,  $b = \frac{1}{3}$ ,  $c = \frac{1}{4}$  and  $d = \frac{1}{5}$ . Express the answer as a mixed number.
- Alicia is making a reading plan for her book club selection. She has 14 days to finish the book. She plans to read 30 pages on weekdays and 70 pages per day on Saturday and Sunday. Following this plan, she still has 10 more pages to read at the end of 14 days. How many pages long is the book? Write an expression to figure out how many pages there are in the book. Use parentheses when necessary. Simplify the expression.
- Mr. Adam and Ms. Kendall are making gingerbread houses for the school bake sale. Each of Mr. Adam's 15 students brought in  $\frac{2}{3}$  lbs. of candy. Each of Ms. Kendall's 12 students brought in  $\frac{3}{4}$  lbs. of candy. If each gingerbread house requires  $\frac{1}{8}$  lb of candy, how many houses can Mr. Adam and Ms. Kendall make together? Write an expression to find how many houses Mr. Adam and Ms. Kendall can make. Use parentheses when necessary. Simplify the expression.
- Nayelin, Joshua and Brian are sharing a pizza. If Nayelin takes  $\frac{3}{7}$  of the pizza and Joshua takes  $\frac{1}{3}$  of the pizza, how much pizza is left for Brian? Write an expression to find how much pizza is left for Brian. Use parentheses when necessary. Simplify the expression.

### Critical Thinking:

- Give an example of an expression where parentheses are not superfluous (that the value of the expression changes upon erasing the parentheses).
- Mark and Brittany are making fruit baskets for families in their community. Each family receives one basket. Each basket includes 3 fruits for every child in the family and 5 fruits for every adult in the family. In their community, there are seven families with 2 kids and 2 adults in the household, five families with 1 child and 1 adult in the household and six families with 2 adults and 1 child in the household. How many fruits will they need? How many baskets will they need? If fruits are \$2 each and baskets are \$3 each, how much money will they need to purchase everything?