Reminders:

Textbooks scanned at the Library

New warm-up vs. last day's questions.

Warm up:

p. 536   **1.** Find the value of each expression for $x = -5$ and $y = -4$.

a) $-4x - 2y$ **b)** $-3x - 2y^2$ **c)** $(3x - 4y)^2$ **d)** $\left(\dfrac{x}{y}\right) - \left(\dfrac{y}{x}\right)$

2. If $x = -\dfrac{1}{2}$ and $y = \dfrac{2}{3}$, find the value of each expression.

a) $x + y$ **b)** $x + 2y$ **c)** $3x - 2y$ **d)** $\dfrac{1}{2}x - \dfrac{1}{2}y$

Before we begin, are there any questions from last day's assigned practice?

Fall 2020
pp. 531-532 #1 - 4

p. 531 **Practising**

1. Evaluate.

a) $\dfrac{1}{4} + \dfrac{-3}{4}$

c) $\dfrac{-1}{4} - 1\dfrac{1}{3}$

e) $\dfrac{-3}{5} + \dfrac{-3}{4} - \dfrac{7}{10}$

b) $\dfrac{1}{2} - \dfrac{-2}{3}$

d) $-8\dfrac{1}{4} - \dfrac{-1}{-3}$

f) $\dfrac{2}{3} - \dfrac{-1}{2} - \dfrac{1}{6}$

Appendix A: Review of Esser

PDF

p. 532

2. Evaluate.

a) $\dfrac{4}{5} \times \dfrac{-20}{25}$

c) $\left(\dfrac{-1}{3}\right)\left(\dfrac{2}{-5}\right)$

e) $\left(-1\dfrac{1}{10}\right)\left(3\dfrac{1}{11}\right)$

b) $\dfrac{3}{-2} \times \dfrac{6}{5}$

d) $\left(\dfrac{9}{4}\right)\left(\dfrac{-2}{-3}\right)$

f) $-4\dfrac{1}{6} \times \left(-7\dfrac{3}{4}\right)$

3. Evaluate.

a) $\dfrac{-4}{3} \div \dfrac{2}{-3}$

c) $\dfrac{-2}{3} \div \dfrac{-3}{8}$

e) $-6 \div \left(\dfrac{-4}{5}\right)$

b) $-7\dfrac{1}{8} \div \dfrac{3}{2}$

d) $\dfrac{-3}{-2} \div \left(\dfrac{-1}{3}\right)$

f) $\left(-2\dfrac{1}{3}\right) \div \left(-3\dfrac{1}{2}\right)$

4. Simplify.

a) $\dfrac{-2}{5} - \left(\dfrac{-1}{10} + \dfrac{1}{-2}\right)$

d) $\left(\dfrac{-2}{3}\right)^2\left(\dfrac{1}{-2}\right)^3$

b) $\dfrac{-3}{5}\left(\dfrac{-3}{4} - \dfrac{-1}{4}\right)$

e) $\left(\dfrac{-2}{5} + \dfrac{1}{-2}\right) \div \left(\dfrac{5}{-8} - \dfrac{-1}{2}\right)$

c) $\left(\dfrac{3}{5}\right)\left(\dfrac{1}{-6}\right)\left(\dfrac{-2}{3}\right)$

f) $\dfrac{\dfrac{-4}{5} - \dfrac{-3}{5}}{\dfrac{1}{3} - \dfrac{-1}{5}}$

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#2

e) $\left(-1\frac{1}{10}\right)\left(3\frac{1}{11}\right)$

$= \left(\frac{-11}{10}\right)\left(\frac{34}{11}\right)^{17}$

$= -\frac{17}{5}$

f) $-4\frac{1}{6} \times \left(-7\frac{3}{4}\right)$

$= \frac{-25}{6} \times \left(\frac{-31}{4}\right)$

$= \frac{+775}{24}$

$$
\begin{array}{r}
25 \\
31 \\
\hline
25 \\
75\, \\
\hline
775
\end{array}
$$

#4

d) $\left(\frac{-2}{3}\right)^2\left(\frac{1}{-2}\right)^3$

$= \left(\frac{(-2)^2}{3^2}\right)\left(\frac{(1)^3}{(-2)^3}\right)$

$= \left(\frac{4}{9}\right)\left(\frac{1}{-8}\right)$

$= -\frac{1}{18}$

e) $\left(\frac{-2}{5} + \frac{1}{-2}\right) \div \left(\frac{5}{-8} - \frac{-1}{2}\right)$

$= \left(\frac{-2}{5} - \frac{1}{2}\right) \div \left(\frac{-5}{8} + \frac{1}{2}\right)$

$= \left(\frac{-4}{10} - \frac{5}{10}\right) \div \left(\frac{-5}{8} + \frac{4}{8}\right)$

$= \left(\frac{-9}{10}\right) \div \left(\frac{-1}{8}\right)$

$= + \frac{9}{10_5} \times \frac{8^4}{1}$

$= \frac{36}{5}$

f) $\dfrac{\frac{-4}{5} - \frac{-3}{5}}{\frac{1}{3} - \frac{-1}{5}}$

$= \left(\frac{-4}{5} + \frac{3}{5}\right) \div \left(\frac{1}{3} + \frac{1}{5}\right)$

$= \left(\frac{-1}{5}\right) \div \left(\frac{5}{15} + \frac{3}{15}\right)$

$= \left(\frac{-1}{5}\right) \div \left(\frac{8}{15}\right)$

$= \frac{-1}{5} \times \frac{15^3}{8}$

$= \frac{-3}{8}$

Reminders:

Sign and **RETURN** the cover sheet with email address PRINTED.

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Homework Check...coming soon.
Keep up with the work or come for help.

Today's Learning Goal(s):
By the end of the class, I will be able to:

a) expand and simplify algebraic expressions.

MCF 3MI **Expanding & Simplifying Algebraic Expressions Review**

Date: _Feb.6/20_
(**Every** lesson)

To simplify an expression, you have to use your algebra rules to make the expression as simple as possible.

To do this, you must *collect like terms*, use the *distributive property* or *FOIL*.

Ex. 1: Simplify the following.

a) $4x - 5y - 3y - 9x$

$= -5x - 8y$

b) $(4x - 7y) - (2y + 3x)$

$= 4x - 7y - 2y - 3x$

$= x - 9y$

$\left. \begin{array}{l} -(3x-2y-z) \\ = -3x+2y+z \end{array} \right.$

c) $-4a(2a - 3b)$

$= -8a^2 + 12ab$

d) $8(2m - 3) + 3m(5m - 1)$

$= 16m - 24 + 15m^2 - 3m$

$= 15m^2 + 13m - 24$

e) $(3x - 7)(4x + 9)$

$= 12x^2 + 27x - 28x - 63$

$= 12x^2 - x - 63$

f) $(2x^2 - 3)(5x^2 + 2)$

$= 10x^4 + 4x^2 - 15x^2 - 6$

$= 10x^4 - 11x^2 - 6$

g) $x^2y^4(3xy^2 - 4x^3y^2)$

$= 3x^{2+1}y^{4+2} - 4x^{2+3}y^{4+2}$

$= 3x^3y^6 - 4x^5y^6$

Reminders:
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Today's Homework Practice :

p. 536 #1, 2

p. 543 #1bcd, 2bd, 3abc, 4

p. 536

1. Find the value of each expression for $x = -5$ and $y = -4$.

a) $-4x - 2y$ b) $-3x - 2y^2$ c) $(3x - 4y)^2$ d) $\left(\dfrac{x}{y}\right) - \left(\dfrac{y}{x}\right)$

2. If $x = -\dfrac{1}{2}$ and $y = \dfrac{2}{3}$, find the value of each expression.

a) $x + y$ b) $x + 2y$ c) $3x - 2y$ d) $\dfrac{1}{2}x - \dfrac{1}{2}y$

p. 543

1. Simplify.
   a) $3x + 2y - 5x - 7y$
   b) $5x^2 - 4x^3 + 6x^2$
   c) $(4x - 5y) - (6x + 3y) - (7x + 2y)$
   d) $m^2n + p - (2p - 3m^2n)$

2. Expand.
   a) $3(2x + 5y - 2)$
   b) $5x(x^2 - x + y)$
   c) $m^2(3m^2 - 2n)$
   d) $x^5y^3(4x^2y^4 - 2xy^5)$

3. Expand and simplify.
   a) $3x(x + 2) + 5x(x - 2)$
   b) $-7h(2h + 5) - 4h(5h - 3)$
   c) $2m^2n(m^3 - n) - 5m^2n(3m^3 + 4n)$
   d) $-3xy^3(5x + 2y + 1) + 2xy^3(-3y - 2 + 7x)$

4. Expand and simplify.
   a) $(3x - 2)(4x + 5)$
   b) $(7 - 3y)(2 + 4y)$
   c) $(5x - 7y)(4x + y)$
   d) $(3x^3 - 4y^2)(5x^3 + 2y^2)$