

10-15-18

Aim: SWBAT evaluate expressions with rational numbers.

HW: Packet Page 21

Review Sheet due Tomorrow

Test Wednesday

Do Now: Evaluate.

$$1 \div \frac{2}{3} \cdot (-8) \cdot 3 \div \left(-\frac{1}{2}\right)$$

$$\begin{aligned} & 1 \div \frac{2}{3} \cdot (-8) \cdot 3 \div \left(-\frac{1}{2}\right) \\ & \checkmark \\ & 1 \cdot \frac{3}{2} \cdot (-8) \cdot 3 \div \left(-\frac{1}{2}\right) \\ & \checkmark \\ & \frac{3}{\cancel{2}} \cdot \left(\frac{-8}{1}\right)^4 \cdot 3 \div \left(-\frac{1}{2}\right) \\ & \checkmark \\ & -12 \cdot 3 \div \left(-\frac{1}{2}\right) \\ & \checkmark \\ & -36 \div \left(-\frac{1}{2}\right) \\ & \frac{-36}{1} \cdot \frac{-2}{1} \end{aligned}$$

$$72$$

HOMEWORK

Evaluate. Express the answer in simplest form.

<p>1</p> <p>A</p> $\frac{12}{20} \cdot \frac{5}{6} = \frac{1}{2}$ <p>Handwritten work: $\frac{12}{20} \cdot \frac{5}{6} = \frac{12 \cdot 5}{20 \cdot 6} = \frac{60}{120} = \frac{1}{2}$</p>	<p>B</p> $\frac{6}{7} \div \frac{1}{3} = \frac{18}{7}$ <p>Handwritten work: $\frac{6}{7} \cdot \frac{3}{1} = \frac{18}{7}$</p>	<p>C</p> $\frac{-12}{25} \cdot \frac{5}{8} = \frac{-3}{10}$ <p>Handwritten work: $\frac{-12}{25} \cdot \frac{5}{8} = \frac{-12 \cdot 5}{25 \cdot 8} = \frac{-60}{200} = \frac{-3}{10}$</p>	<p>D</p> $\frac{-12}{60} \cdot \frac{2}{10} = \frac{-1}{25}$ <p>Handwritten work: $\frac{-12}{60} \cdot \frac{2}{10} = \frac{-12 \cdot 2}{60 \cdot 10} = \frac{-24}{600} = \frac{-1}{25}$</p>
<p>2</p> $-1\frac{1}{8} \cdot 2\frac{2}{3} = -3$ <p>Handwritten work: $-\frac{9}{8} \cdot \frac{8}{3} = -\frac{72}{24} = -3$</p>	$-1\frac{5}{6} \cdot -1\frac{5}{11} =$ <p>Handwritten work: $-\frac{11}{6} \cdot -\frac{16}{11} = \frac{176}{66} = \frac{8}{3}$</p>	$\frac{100}{900} \cdot 8 = 800$ <p>Handwritten work: $\frac{100}{900} \cdot 8 = \frac{800}{900} = \frac{8}{9}$</p>	$\frac{-2}{5} \div \frac{2}{7} = \frac{-7}{5}$ <p>Handwritten work: $\frac{-2}{5} \cdot \frac{7}{2} = \frac{-14}{10} = \frac{-7}{5}$</p>
<p>3</p> $-1\frac{1}{2} \div 2\frac{1}{3} = \frac{-9}{14}$ <p>Handwritten work: $-\frac{3}{2} \div \frac{7}{3} = -\frac{3}{2} \cdot \frac{3}{7} = \frac{-9}{14}$</p>	$-\frac{4}{5} \div \frac{7}{10} = \frac{-8}{7}$ <p>Handwritten work: $-\frac{4}{5} \cdot \frac{10}{7} = \frac{-40}{35} = \frac{-8}{7}$</p>	$-1\frac{3}{4} \div 2\frac{1}{3} = \frac{-3}{4}$ <p>Handwritten work: $-\frac{7}{4} \div \frac{7}{3} = -\frac{7}{4} \cdot \frac{3}{7} = \frac{-21}{28} = \frac{-3}{4}$</p>	$\frac{-2}{5} \div \frac{-5}{1} = \frac{2}{25}$ <p>Handwritten work: $\frac{-2}{5} \cdot \frac{1}{-5} = \frac{2}{25}$</p>
<p>4</p> $4\frac{1}{2} \cdot -4\frac{1}{3} \cdot \frac{5}{6} = \frac{-195}{4} = \frac{-65}{4}$ <p>Handwritten work: $\frac{9}{2} \cdot -\frac{13}{3} \cdot \frac{5}{6} = \frac{-117}{2} \cdot \frac{5}{6} = \frac{-585}{12} = \frac{-65}{4}$</p>	<p>What is the product of $\frac{12}{20}$ and $\frac{5}{6}$?</p> $\frac{12}{20} \cdot \frac{5}{6} = \frac{1}{2}$ <p>Handwritten work: $\frac{12}{20} \cdot \frac{5}{6} = \frac{12 \cdot 5}{20 \cdot 6} = \frac{60}{120} = \frac{1}{2}$</p>		
<p>5</p> $\frac{4}{5} \cdot 4\frac{3}{8} \div \frac{6}{12} = 7$ <p>Handwritten work: $\frac{4}{5} \cdot \frac{35}{8} \div \frac{6}{12} = \frac{140}{40} \cdot \frac{12}{6} = \frac{140}{40} \cdot 2 = \frac{280}{40} = 7$</p>			

Aim: **SWBAT** evaluate variable expressions using the correct order of operations.

CLASSWORK:

When evaluating variable expressions:

- 1) Rewrite the expression (when necessary)
- 2) Substitute the variable(s)
- 3) Evaluate step-by-step using the correct order of operations (P-E-MD-AS)



Evaluate each expression if $a = 8$, $b = 1\frac{1}{2}$, $c = -\frac{3}{5}$, $d = -10$

1) $-a + bd$
 $-8 + 1\frac{1}{2} \cdot -10$
 $-8 + \frac{3}{2} \cdot \frac{-10}{1}$
 $-8 - 15$
 -23

2) c^2
 $(-\frac{3}{5})^2$
 $-\frac{3}{5} \cdot -\frac{3}{5}$
 $\frac{9}{25}$

3) $-d - 5a$

4) $\frac{1}{4}a - \frac{2}{5}d$

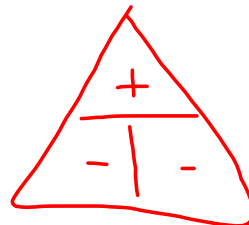
5) $c + b$

6) $b(d - a)$

* 7) bcd
 $1\frac{1}{2} \cdot -\frac{3}{5} \cdot -10$
 $\frac{3}{2} \cdot -\frac{3}{5} \cdot \frac{-10}{1}$
 $\frac{9}{1}$
 9

8) $\frac{8d+5}{b}$

9) $-35c + d^2$
 $-35 \cdot -\frac{3}{5} + (-10)^2$
 $21 + 100$
 121



Simplify.
 $\frac{14}{10} \div \frac{2}{2} = \frac{7}{5}$
 ~~$\frac{7}{5}$~~

HOMEWORK

Evaluate the following expressions if $w = -\frac{1}{2}$, $x = 2$, $y = -3$ and $z = \frac{2}{3}$

Remember to:

- 1) Rewrite (when necessary)
- 2) Substitute
- 3) Evaluate

1) $w - y + x$

2) $2x - 3z$

3) $\frac{4xy}{w}$

Evaluate the following expressions if $w = -\frac{1}{2}$, $x = 2$, $y = -3$ and $z = \frac{2}{3}$

4) $-15z - 4y$

5) wyz

6) $-y - xw$

7) $\frac{6w+x}{y-1}$

8) $(x^2y) \div z$