

10-16-17

Aim: SWBAT review.

HW: Test tomorrow

There is "Extra Practice" on the last two slides.

Do Now: WS

Name the LCD for the following...

$$\frac{1}{4} \text{ and } \frac{2}{3}$$

$$\cancel{3|4} \quad \cancel{3|8}$$

$$3 \overline{)12}$$

$$\frac{11}{5} \text{ and } 1\frac{2}{6}$$

$$\cancel{5|6} \quad \cancel{5|12} \quad \cancel{5|18}$$

$$5 \overline{)24} \quad 5 \overline{)30}$$

$$\frac{5}{16} \text{ and } \frac{3}{20}$$

$$\cancel{16|20} \quad \cancel{16|40}$$

$$\cancel{16|60} \quad 16 \overline{)80}$$

$$\frac{13}{12} \text{ and } 2\frac{11}{36}$$

$$12 \overline{)36}$$

1. Evaluate a^2 and $-a^2$ if $a = \frac{1}{2}$

$\rightarrow \left(\frac{1}{2}\right)^2 = \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$
 $\rightarrow -\left(\frac{1}{2}\right)^2 = -\left(\frac{1}{2} \cdot \frac{1}{2}\right) = -\frac{1}{4}$

opposite (arrow pointing from a^2 to $-a^2$)
reciprocal (arrow pointing from $\frac{1}{4}$ to $-\frac{1}{4}$)

2. Write the multiplicative inverse for each.

$3\frac{7}{8} \rightarrow \frac{31}{8} \rightarrow \boxed{\frac{8}{31}}$
 $-9\frac{1}{3} \rightarrow \frac{-26}{3} \rightarrow \boxed{\frac{-3}{26}}$
 $-\frac{1}{4} \rightarrow \frac{-1}{4} \rightarrow \boxed{-4}$
 $-14 \rightarrow \frac{-14}{1} \rightarrow \boxed{\frac{-1}{14}}$

① Make a fraction
 ② Flip it & sign stays the same

3. Write the additive inverse for each.

$3\frac{7}{8}$ $-9\frac{1}{3}$ $-\frac{1}{4}$ -14
 $-3\frac{7}{8}$ $9\frac{1}{3}$ $\frac{1}{4}$ 14

change the sign (arrow pointing from $-\frac{1}{4}$ to $\frac{1}{4}$)

$$24 \cdot \left(\frac{-3}{2}\right)$$

$$-36$$

$$-50 \cdot \left(\frac{-101}{25}\right)$$

$$202$$

$$52 \left(\frac{3}{26}\right)$$

$$6$$

$$-\pi \left(\frac{36}{\pi}\right)$$

$$-36$$

$$24 \cdot \left(\frac{-4}{3}\right)$$

$$-32$$

Evaluate if $a = \frac{5}{8}$, $b = \frac{-7}{6}$, and $c = -1\frac{1}{2}$.

ac
 $(\frac{5}{8})(-1\frac{1}{2})$
 $-\frac{15}{16}$

side work
 $\frac{5}{8} \cdot \frac{-3}{2}$
 $-\frac{15}{16}$

a - b
 $\frac{5}{8} - (\frac{-7}{6})$
 $\frac{43}{24}$

$\frac{5 \cdot 3}{8 \cdot 3} + \frac{7 \cdot 4}{6 \cdot 4}$
 $\frac{15}{24} + \frac{28}{24}$
 $\frac{43}{24}$

a - b + c
 $\frac{5}{8} - (\frac{-7}{6}) + (-1\frac{1}{2})$
 $\frac{7}{24}$

$\frac{5}{8} + \frac{7}{6} - 1\frac{1}{2}$
 $\frac{5}{8} + \frac{7}{6} - \frac{3 \cdot 12}{2 \cdot 12}$
 $\frac{15}{24} + \frac{28}{24} - \frac{36}{24}$
 $\frac{7}{24}$

bc - c
 $(\frac{-7}{6})(-1\frac{1}{2}) - (-1\frac{1}{2})$
 $\frac{7}{4} - (-1\frac{1}{2})$
 $\frac{13}{4}$

$(\frac{-7}{6})(\frac{-3}{2})$
 $\frac{7}{4} + 1\frac{1}{2}$
 $\frac{7}{4} + \frac{3}{2}$
 $\frac{7}{4} + \frac{6}{4}$
 $\frac{13}{4}$

ab²
 $(\frac{5}{8})(\frac{-7}{6})^2$
 $(\frac{5}{8})(\frac{49}{36})$
 $\frac{245}{288}$

$(\frac{-7}{6})(\frac{-7}{6})$
 $\frac{49}{36}$

16c³
 $(16)(-1\frac{1}{2})^3$
 $16 \cdot \frac{-27}{8}$
 -54

$(\frac{-3}{2})(\frac{-3}{2})(\frac{-3}{2})$
 $\frac{-27}{8} \cdot \frac{16}{1}$

Name _____

Date _____

Period _____

SAME SIGNS - ADD

DIFFERENT SIGNS - SUBTRACT

Write the answer on the line provided. Show work.

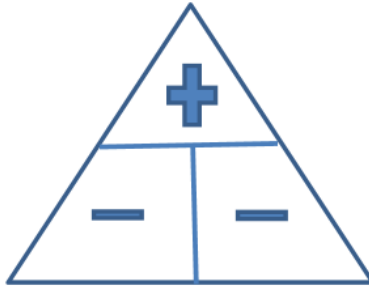
<p>1. $4\frac{2}{5} - 2\frac{1}{4} =$ _____</p> <p>$\frac{22 \times 4}{5 \times 4} - \frac{9 \times 5}{4 \times 5}$</p> <p>$\frac{88}{20} - \frac{45}{20}$</p> <p>$\frac{43}{20}$ or $2\frac{3}{20}$</p>	<p>2. $6 + 2\frac{5}{7} =$ _____</p> <p>$6 + 2 + \frac{5}{7}$</p> <p>$8 + \frac{5}{7}$</p> <p>$8\frac{5}{7}$ or $\frac{61}{7}$</p>	<p>3. $3\frac{1}{5} + (-3\frac{1}{2}) =$ _____</p> <p>$3\frac{1}{5} - 3\frac{1}{2}$</p> <p>$\frac{16 \times 2}{5 \times 2} - \frac{7 \times 5}{2 \times 5}$</p> <p>$\frac{32}{10} - \frac{35}{10}$</p> <p>$-\frac{3}{10}$</p>
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<p>4. $3\frac{1}{7} - 10 =$ $\frac{-48}{7}$ or $-6\frac{6}{7}$</p> <p>$\frac{22}{7} - \frac{10 \times 7}{1 \times 7}$</p> <p>$\frac{22}{7} - \frac{70}{7}$</p> <p>$\frac{-48}{7}$</p>	<p>5. $-5\frac{1}{3} + (-6\frac{2}{3}) =$ -12</p> <p>$-5\frac{1}{3} - 6\frac{2}{3}$</p> <p>$\frac{-16}{3} - \frac{20}{3}$</p> <p>$\frac{-36}{3}$</p> <p>$\frac{-12}{1} = -12$</p>
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Name _____

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6.

$$\left(2\frac{2}{5}\right)\left(2\frac{1}{4}\right) = \frac{27}{5} \text{ or } 5\frac{2}{5}$$

$$^3 \frac{\cancel{12}}{5} \cdot \frac{9}{\cancel{4}_1} = \frac{27}{5}$$

7.

$$-7 \div -2\frac{1}{3} = 3$$

$$\frac{-7}{1} \div \frac{-7}{3}$$

$$\frac{\cancel{-7}}{1} \cdot \frac{3}{\cancel{-7}_1} = 3$$

8.

$$\left(\frac{1}{5}\right)\left(-3\frac{1}{2}\right) = -\frac{7}{10}$$

$$\frac{1}{5} \cdot \frac{-7}{2} = -\frac{7}{10}$$

9.

$$-1\frac{1}{7} \div \frac{16}{49} = -\frac{7}{2} \text{ or } -3\frac{1}{2}$$

$$-\frac{8}{7} \div \frac{16}{49}$$

$$\frac{\cancel{-8}}{7} \cdot \frac{49}{\cancel{16}_2} = -\frac{7}{2}$$

10.

$$\left(-\frac{1}{3}\right)(-6) = 2$$

$$-\frac{1}{3} \cdot \frac{-6^2}{1} = \frac{2}{1} = 2$$

Practice Problems. Answers are highlighted.

Find each difference.

1. $5 - 23$

2. $-6 - 4 - 10$

3. $-3 - (-1) - 2$

4. $\frac{2}{3} - \frac{1}{2} - \frac{1}{6}$

5. $2\frac{1}{3} - 3 - \frac{2}{3}$

6. $\frac{5}{6} - \frac{2}{3} - \frac{1}{6}$

7. $4\frac{1}{2} - 5\frac{2}{3} - 1\frac{1}{6}$

8. $-\frac{6}{7} - \frac{5}{3} - 2\frac{11}{21}$

Solve each equation. Write the solution in simplest form.

9. $y = 15 - 96$

10. $8 - 2\frac{1}{4} = h$

11. $\frac{5}{7} - \frac{2}{7} = g$

12. $x = 3 - \frac{1}{2} - 2\frac{1}{2}$

13. $-5 - 3\frac{1}{2} = j - 8\frac{1}{2}$

14. $-2 - (-4) = m$

15. $a = -7 - (-2\frac{3}{4}) - 4\frac{1}{4}$

16. $p = -\frac{3}{4} - (-\frac{1}{4}) - \frac{1}{2}$

17. $3\frac{5}{7} - (-1\frac{1}{7}) = x$

18. $b = 3\frac{1}{3} - 2\frac{1}{6} - \frac{1}{6}$

19. $s = 6\frac{3}{4} - 3\frac{1}{2} - 3\frac{1}{4}$

20. $4\frac{1}{3} - 2\frac{1}{2} = t$

21. $c = -\frac{9}{8} - (-\frac{3}{8}) - 1\frac{1}{8}$

22. $r = -\frac{3}{11} - \frac{7}{11} - \frac{10}{11}$

23. $8\frac{1}{5} - 2\frac{1}{4} = u$

24. $t = 5\frac{3}{4} - 2\frac{5}{8} - 2\frac{1}{2}$

25. $-\frac{11}{12} - (-1\frac{1}{2}) + 6\frac{3}{4} = a$

26. $2\frac{5}{9} - 6\frac{2}{3} - (-3\frac{1}{6}) = z$

27. $m = -4\frac{3}{8} - (-2\frac{1}{3}) + (-9\frac{7}{9})$

The answers are listed. Concentrate on how to get the answers.

Written Exercises

Solve each equation. Write the solution in simplest form.

1. $a = 2(-\frac{1}{4}) - \frac{1}{2}$

2. $n = \frac{1}{2}(-4) - 2$

4. $c = 14(\frac{3}{7}) - 4$

5. $r = -2\frac{1}{2}(-6) - 15$

7. $d = -4(\frac{3}{8}) - 1\frac{1}{2}$

8. $(-7)(-2\frac{1}{3}) = h$

10. $m = (-1\frac{1}{3})(-\frac{3}{4}) - 1$

11. $(2\frac{1}{4})(-\frac{4}{3}) = t - 3$

13. $(-9\frac{3}{5})(\frac{5}{12}) = y - 4$

14. $f = (-16)(-\frac{3}{8}) - 6$

16. $(-7)(-8\frac{1}{2}) = x - 59\frac{1}{2}$

17. $(3\frac{1}{8})(-2\frac{1}{3}) = m - 7\frac{7}{18}$

19. $(4\frac{1}{2})(2\frac{2}{7}) = p - 10\frac{2}{7}$

20. $(-8\frac{1}{5})(-5\frac{1}{2}) = n - 45\frac{1}{10}$

Challenge Exercises

22. $-\frac{3}{4} \cdot \frac{4}{7} \cdot (-\frac{1}{9}) = y - \frac{1}{21}$

23. $n = (-\frac{5}{9})(-\frac{3}{8})(-\frac{6}{7}) - \frac{3}{7}$

Practice Problems. Answers are highlighted.

Solve each equation. Write the solution in simplest form.

1. $y = 5 \div 7 \frac{9}{7}$

2. $x = 16 \div (-5) - 3 \frac{1}{5}$

3. $-3 \div (-10) = s \frac{3}{10}$

4. $a = 6 \div (-\frac{2}{3}) - 9$

5. $c = -10 \div (\frac{5}{2}) - 4$

6. $\frac{3}{4} + \frac{2}{3} = t \frac{11}{12}$

7. $h = 2 \frac{1}{2} + \frac{3}{4} - 3 \frac{1}{3}$

8. $p = -3 \frac{1}{5} + 4 \frac{2}{5} - \frac{8}{11}$

9. $16 \frac{1}{8} + 14 \frac{1}{3} = u \frac{11}{8}$

10. $x = 10 \div (-2) - 5$

11. $-3 \div (\frac{2}{3}) = y - 4 \frac{1}{2}$

12. $\frac{3}{4} + \frac{1}{2} = k \frac{11}{4}$

13. $p = -\frac{5}{7} + \frac{1}{14} - 10$

14. $2 \frac{3}{4} \div (-\frac{3}{4}) = a - 3 \frac{2}{3}$

15. $-8 + (-\frac{4}{3}) = h \ 6$

16. $f = -\frac{3}{8} \div (-3) \frac{1}{8}$

17. $c = 5 \frac{5}{8} \div 2 \frac{1}{3} - 2 \frac{1}{2}$

18. $4 \frac{2}{3} \div (-\frac{6}{7}) = d - 5 \frac{1}{9}$

19. $q = -2 \div (-\frac{1}{3}) \ 6$

20. $s = -3 \frac{5}{8} + 2 \frac{1}{6} - 1 \frac{15}{32}$

21. $-7 \frac{1}{2} \div (1 \frac{1}{5}) = n - 6 \frac{1}{4}$

22. $m = -\frac{16}{7} \div (-\frac{12}{35}) \ 6 \frac{2}{3}$

23. $a = \frac{21}{30} \div (-\frac{7}{15}) - 1 \frac{1}{2}$

24. $12 \frac{1}{4} \div (-\frac{14}{3}) = j - 2 \frac{5}{8}$

Challenge Exercises

25. $\frac{-8}{9} \div (\frac{7}{18} + \frac{7}{8}) = w \ -2$

26. $(-5 \frac{1}{4} + -4 \frac{1}{2}) \cdot \frac{-6}{7} = r \ -1$

27. $q = (-1 \frac{5}{6} \cdot 10 \frac{2}{3}) \div -1 \frac{3}{7} \frac{13 \frac{31}{45}}$