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...

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

3|4 3|8

3|12

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

5|6 5|12 5|18

5|24 5|30

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

16|20 16|40

16|60 16|80

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

12|36

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

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

$\rightarrow \frac{1}{2} \cdot \frac{1}{2} \quad -\left(\frac{1}{2} \cdot \frac{1}{2}\right)$

$\rightarrow \frac{1}{4}$ reciprocal $-\frac{1}{4}$

2. Write the multiplicative inverse for each.

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

$3\frac{7}{8} \rightarrow \frac{31}{8} \rightarrow \frac{8}{31}$

$-9\frac{1}{3} \rightarrow \frac{-28}{3} \rightarrow \frac{-3}{28}$

$-\frac{1}{4}$

$\frac{-14}{1} \rightarrow \frac{-1}{14}$

$\frac{-4}{1} = -4$

3. Write the additive inverse for each. (opposite)

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

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

Change the sign.

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

$-36$

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

$202$

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

$6$

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

$-36$

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

$-32$

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

**ac**

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

$\frac{-15}{16}$

side work

$\frac{5}{8} \cdot \frac{-3}{2}$

$\frac{-15}{16}$

**a - b**

$\frac{5}{8} - \left(\frac{-7}{6}\right)$

$\frac{43}{24}$

$\frac{5\cdot3}{8\cdot3} + \frac{7\cdot4}{6\cdot4}$

$\frac{15}{24} + \frac{28}{24}$

$\frac{43}{24}$

**a - b + c**

$\frac{5}{8} - \left(\frac{-7}{6}\right) + \left(-1\frac{1}{2}\right)$

$\frac{7}{24}$

$\frac{5}{8} + \frac{7}{6} - 1\frac{1}{2}$

$\frac{5}{8} + \frac{7}{6} - \frac{3\cdot12}{2\cdot12}$

$\frac{15}{24} + \frac{28}{24} - \frac{36}{24}$

$\frac{7}{24}$

**bc - c**

$\left(\frac{-7}{6}\right)\left(-1\frac{1}{2}\right) - \left(-1\frac{1}{2}\right)$

$\left(\frac{-7}{6}\right)\left(\frac{-3}{2}\right)$

$\frac{7}{4} - \left(-1\frac{1}{2}\right)$

$\frac{13}{4}$

$\frac{7}{4} + 1\frac{1}{2}$

$\frac{7}{4} + \frac{3}{2}$

$\frac{7}{4} + \frac{6}{4}$

$\frac{13}{4}$

**$ab^2$**

$\left(\frac{5}{8}\right)\left(\frac{-7}{6}\right)^2$

$\left(\frac{5}{8}\right)\left(\frac{49}{36}\right)$

$\frac{245}{288}$

$\left(\frac{-7}{6}\right)\left(\frac{-7}{6}\right)$

$\frac{49}{36}$

**$16c^3$**

$(16)\left(-1\frac{1}{2}\right)^3$

$16 \cdot \frac{-27}{8}$

$-54$

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

$\frac{-27}{8}$ $\frac{16}{1}$

Name _____ Date_____
Period ____

SAME SIGNS - ADD

DIFFERENT SIGNS - SUBTRACT

**Write the answer on the line provided. Show work.**

1. $4\frac{2}{5} - 2\frac{1}{4} =$ _____

$\frac{22}{5} - \frac{9}{4}$ $\quad \times 4 \quad \times 5$

$\frac{88}{20} - \frac{45}{20}$

$\frac{43}{20}$ or $2\frac{3}{20}$

2. $6 + 2\frac{5}{7} =$ _____

$6 + 2 + \frac{5}{7}$

$8 + \frac{5}{7}$

$8\frac{5}{7}$ or $\frac{61}{7}$

3. $3\frac{1}{5} + \left(-3\frac{1}{2}\right) =$ _____

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

$\frac{16}{5} - \frac{7}{2}$ $\quad \times 2 \quad \times 5$

$\frac{32}{10} - \frac{35}{10}$

$-\frac{3}{10}$

4. $3\frac{1}{7} - \frac{10}{1} =$ _____ $-\frac{48}{7}$ or $-6\frac{6}{7}$

$\frac{22}{7} - \frac{10}{1}$ $\quad \times 7$

$\frac{22}{7} - \frac{70}{7}$

$-\frac{48}{7}$

5. $-5\frac{1}{3} + \left(-6\frac{2}{3}\right) =$ _____ $-12$

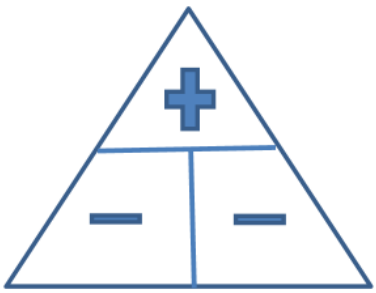
$-5\frac{1}{3} - 6\frac{2}{3}$

$-\frac{16}{3} - \frac{20}{3}$

$-\frac{36}{3}$

$\frac{-12}{1} = -12$

Name _____ Date_____
Period ____



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

$\frac{12}{5} \cdot \frac{9}{4} = \frac{27}{5}$

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

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

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

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

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

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

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

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

# Practice Problems. Answers are highlighted.

**Find each difference.**

1. $5 - 2\,3$
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. $y = 15 - 9\ 6$
10. $8 - 2\frac{1}{4} = h\ 5\frac{3}{4}$
11. $\frac{5}{7} - \frac{2}{7} = g\ \frac{3}{7}$
12. $x = 3 - \frac{1}{2}\ 2\frac{1}{2}$
13. $^-5 - 3\frac{1}{2} = j\ -8\frac{1}{2}$
14. $^-2 - (^-4) = m\ 2$
15. $a = ^-7 - \left(^-2\frac{3}{4}\right)\ -4\frac{1}{4}$
16. $p = -\frac{3}{4} - \left(-\frac{1}{4}\right)\ -\frac{1}{2}$
17. $3\frac{5}{7} - \left(^-1\frac{1}{7}\right) = x\ 4\frac{6}{7}$
18. $b = 3\frac{1}{3} - 2\frac{1}{6}\ 1\frac{1}{6}$
19. $s = 6\frac{3}{4} - 3\frac{1}{2}\ 3\frac{1}{4}$
20. $4\frac{1}{3} - 2\frac{1}{2} = t\ 1\frac{5}{6}$
21. $c = -\frac{9}{5} - \left(-\frac{3}{5}\right)\ -1\frac{1}{5}$
22. $r = -\frac{3}{11} - \frac{7}{11}\ -\frac{10}{11}$
23. $8\frac{1}{5} - 2\frac{1}{4} = v\ 5\frac{13}{20}$
24. $t = 5\frac{3}{4} - 2\frac{5}{6} - 2\frac{1}{2}\ \frac{5}{12}$
25. $-\frac{11}{12} - \left(^-1\frac{1}{2}\right) + 6\frac{3}{4} = a\ 7\frac{1}{3}$
26. $2\frac{5}{9} - 6\frac{2}{3} - \left(^-3\frac{1}{6}\right) = z\ -\frac{17}{18}$
27. $m = ^-4\frac{3}{8} - \left(^-2\frac{1}{3}\right) + \left(^-9\frac{7}{9}\right)\ -11\frac{59}{72}$

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

## *Written Exercises*

**Solve each equation. Write the solution in simplest form.**

1. $a = 2\left(-\frac{1}{4}\right)\ -\frac{1}{2}$
2. $n = \frac{1}{2}(^-4)\ -2$
4. $c = 14\left(\frac{2}{7}\right)\ 4$
5. $r = ^-2\frac{1}{2}(^-6)\ 15$
7. $d = ^-4\left(\frac{3}{8}\right)\ -1\frac{1}{2}$
8. $(^-7)\left(^-2\frac{1}{3}\right) = h\ 16\frac{1}{3}$
10. $m = \left(^-1\frac{1}{3}\right)\left(-\frac{3}{4}\right)\ 1$
11. $\left(2\frac{1}{4}\right)\left(-\frac{4}{3}\right) = t\ ^-3$
13. $\left(^-9\frac{3}{5}\right)\left(\frac{5}{12}\right) = y\ ^-4$
14. $f = (^-16)\left(-\frac{3}{8}\right)\ 6$
16. $(^-7)\left(^-8\frac{1}{2}\right) = x\ 59\frac{1}{2}$
17. $\left(3\frac{1}{6}\right)\left(^-2\frac{1}{3}\right) = n\ -7\frac{7}{18}$
19. $\left(4\frac{1}{2}\right)\left(2\frac{2}{7}\right) = p\ 10\frac{2}{7}$
20. $\left(^-8\frac{1}{5}\right)\left(^-5\frac{1}{2}\right) = n\ 45\frac{1}{10}$

## *Challenge Exercises*

22. $-\frac{3}{4} \cdot \frac{4}{7} \cdot \left(-\frac{1}{9}\right) = y\ \frac{1}{21}$
23. $n = \left(-\frac{5}{9}\right)\left(-\frac{3}{5}\right)\left(-\frac{6}{7}\right)\ -\frac{2}{7}$

## Practice Problems. Answers are highlighted.

**Solve each equation. Write the solution in simplest form.**

1. $y = 5 \div 7$ $\frac{5}{7}$
2. $x = 16 \div (-5)$ $-3\frac{1}{5}$
3. $-3 \div (-10) = s$ $\frac{3}{10}$
4. $a = 6 \div \left(-\frac{2}{3}\right)$ $-9$
5. $c = -10 \div \left(\frac{5}{2}\right)$ $-4$
6. $\frac{3}{4} \div \frac{2}{3} =$ $1\frac{1}{8}$
7. $h = 2\frac{1}{2} \div \frac{3}{4}$ $3\frac{1}{3}$
8. $p = -3\frac{1}{5} \div 4\frac{2}{5}$ $-\frac{8}{11}$
9. $16\frac{1}{8} \div 14\frac{1}{3} =$ $1\frac{1}{8}$
10. $x = 10 \div (-2)$ $-5$
11. $-3 \div \left(\frac{2}{3}\right) =$ $-4\frac{1}{2}$
12. $\frac{3}{4} \div \frac{1}{2} =$ $1\frac{1}{2}$
13. $p = -\frac{5}{7} \div \frac{1}{14}$ $-10$
14. $2\frac{3}{4} \div \left(-\frac{3}{4}\right) =$ $-3\frac{2}{3}$
15. $-8 \div \left(-\frac{4}{3}\right) =$ $6$
16. $f = -\frac{3}{8} \div (-3)$ $\frac{1}{8}$
17. $c = 5\frac{5}{6} \div 2\frac{1}{3}$ $2\frac{1}{2}$
18. $4\frac{2}{3} \div \left(-\frac{6}{7}\right) =$ $-5\frac{4}{9}$
19. $q = -2 \div \left(-\frac{1}{3}\right)$ $6$
20. $s = -3\frac{5}{8} \div 2\frac{1}{6}$ $-1\frac{35}{52}$
21. $-7\frac{1}{2} \div \left(1\frac{1}{5}\right) =$ $-6\frac{1}{4}$
22. $m = -\frac{16}{7} \div \left(-\frac{12}{35}\right)$ $6\frac{2}{3}$
23. $a = \frac{21}{30} \div \left(-\frac{7}{15}\right)$ $-1\frac{1}{2}$
24. $12\frac{1}{4} \div \left(-\frac{14}{3}\right) =$ $-2\frac{5}{8}$

*Challenge Exercises*

25. $\frac{-8}{9} \div \left(\frac{7}{18} \div \frac{7}{8}\right) = w$ $-2$
26. $\left(-5\frac{1}{4} \div -4\frac{1}{2}\right) \cdot \frac{-6}{7} =$ $-1$
27. $q = \left(-1\frac{5}{6} \cdot 10\frac{2}{3}\right) \div$ $13\frac{31}{45}$