

Midterm Practice

1. Find the greatest common factor of 28 and 35

$$\begin{array}{r}
 28 \\
 \underline{11} \\
 47 \\
 \underline{22} \\
 25
 \end{array}
 \qquad
 \begin{array}{r}
 35 \\
 \underline{11} \\
 57 \\
 \underline{33} \\
 24
 \end{array}
 \qquad
 \text{GCF: } 7$$

2. Find the least common multiple of 12 and 24

$$\begin{array}{l}
 12 - 12, 24, 36, 48... \\
 24 - 24, 48...
 \end{array}
 \qquad
 \text{LCM: } 24$$

3. The table shows the number of trees at Citrus Orchards.

Citrus Orchard	
Trees	Amount of Trees
Lemon	20
Lime	16
Orange	18

a. What is the ratio of orange trees to the total number of trees?

$$\frac{18}{20+16+18} = \frac{18}{54} = \frac{9}{27} = \frac{1}{3}$$

b. What is the ratio of orange trees to lime trees?

$$\frac{18}{16} = \frac{9}{8}$$

c. What is the ratio of lemon and lime trees to the total number of trees?

$$\frac{20+16}{20+16+18} = \frac{36}{54} = \frac{18}{27} = \frac{2}{3}$$

4. Write each rate as a unit rate

a. 240 kilometers in 20 hours

$$\frac{240}{20} = \frac{12 \text{ km}}{1 \text{ hr}}$$

b. \$135 for 15 tickets

$$\frac{135}{15} = \frac{\$9}{1 \text{ ticket}}$$

c. 30 pounds for \$1.50

$$\frac{30}{1.5} = \frac{300}{15} = \frac{20 \text{ pound}}{\$1}$$

5. Kelly can type 150 words in 5 minutes. How many words can she type in 1 minute at this rate?

$$\frac{150}{5} = \frac{30 \text{ words}}{1 \text{ minute}}$$

6. It took Jim 16 minutes to jog 5 laps. How many minutes did it take to jog each lap at this rate?

$$\frac{16}{5} = \frac{3.2 \text{ laps}}{1 \text{ min.}}$$

$$\begin{array}{r} 3.2 \\ 5 \overline{) 16} \\ \underline{15} \\ 10 \\ \underline{10} \\ 0 \end{array}$$

7. What is $\frac{1}{5}$ written as a percent?

$$\frac{1}{5} = 0.2 = 20\%$$

8. What is 43.6% written as a fraction in simplest form?

$$\frac{43.6}{100} = \frac{436}{1000} = \frac{109}{250}$$

9. What is 315% written as a mixed number?

$$\frac{315}{100} = 3 \frac{15}{100} = 3 \frac{3}{20}$$

10. What is 40 % of 200?

$$\frac{40}{100} \cdot 200 = 80$$

11. What is 40% of 320?

$$8 \cdot 40 \left(\frac{40}{100} \right) = 128$$

12. The original price of a bicycle is \$190. The sale price is 60% of the original price. What is the sale price of the bicycle?

$$\left(\frac{60}{100} \right) 190 = 114$$

$$\begin{array}{r} 19 \\ \times 6 \\ \hline 114 \end{array}$$

13. Find each sum or difference

a. $34.3 + 0.4213$

$$\begin{array}{r} 34.3 \\ .4213 \\ \hline 34.7213 \end{array}$$

b. $65.724 - 32.3$

$$\begin{array}{r} 65.724 \\ - 32.300 \\ \hline 33.424 \end{array}$$

c. $4.34 + 19.0072$

$$\begin{array}{r} 4.34 \\ 19.0072 \\ \hline 23.3472 \end{array}$$

d. $74 - 41.63$

$$\begin{array}{r} 74 \\ - 41.63 \\ \hline 32.37 \end{array}$$

14. Find each product or quotient

a. $9.4 \times 3.2 = 30.08$

$$\begin{array}{r} 9.4 \\ \times 3.2 \\ \hline \end{array}$$

b. $15.3 \times 4.95 = 75.735$

c. $24.53 \div 6.3$

3.9

$6.3 \overline{)24.53}$

← round to nearest tenth!

d. $42.2 \div 6.5 = 6.5$

15. The temperature in a city on a Monday was 53.4 degrees Fahrenheit. On Tuesday, the temperature was 75.3 degrees Fahrenheit. How much higher was the temperature on Tuesday?

~~$6 \overline{)53.4}$~~

75.3
 53.4

 21.90

16. Bananas cost \$0.23 per pound and grapes cost \$1.15 per pound. Leanne bought 1.3 pounds of bananas and 2.5 pounds of grapes. How much did she pay for the bananas and grapes?

$1.3 \times .23 = .299$
 $1.15 \times 2.5 = 2.875$
 $+ .299$

 3.174

about \$3.17

17. Find each product or quotient. Write your answer in simplest form. Show your work.

a. $3\frac{2}{7} \times 1\frac{2}{9}$

$\frac{23}{7} \times \frac{11}{9} = \frac{253}{63} \Rightarrow 4\frac{1}{63}$

$63 \overline{)253}$

b. $2\frac{4}{5} \times 4\frac{1}{3}$

$\frac{14}{5} \times \frac{13}{3} = \frac{182}{15} = 12\frac{2}{15}$

c. $\frac{12}{1} \times \frac{1}{9}$

$= \frac{12}{9} = \frac{4}{3} = 1\frac{1}{3}$

d. $4 \div 2\frac{4}{5}$

$\frac{4}{1} \div \frac{14}{5} = \frac{4}{1} \times \frac{5}{14} = \frac{20}{14} = \frac{10}{7} = 1\frac{3}{7}$

e. $2\frac{1}{4} \div \frac{3}{4}$

$\frac{9}{4} \div \frac{3}{4} = \frac{9}{4} \cdot \frac{4}{3} = 3$

18. Joelle's necklace is $10\frac{1}{4}$ inches long. Erin's necklace is $2\frac{2}{3}$ times as long. About how long is Erin's necklace?

$10\frac{1}{4} \times 2\frac{2}{3}$

$\frac{41}{4} \times \frac{8}{3} = \frac{82}{3} = 27\frac{1}{3}$

about 27
inches

19. Mia is making costumes for a play. Each costume needs $3\frac{7}{9}$ yards of velvet. She is making 6 costumes. About how much velvet does she need?

$$3\frac{7}{9} \times 6$$

$$\frac{34}{9} \times \frac{6}{1} = \frac{68}{3} = 22\frac{2}{3}$$

20. Ms. Oliver sewed together a quilt that is $3\frac{2}{3}$ feet long and $2\frac{1}{4}$ feet wide. What is the area of her quilt?

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

$$1\frac{11}{3} \times \frac{9}{4} = \frac{33}{4} = 8\frac{1}{4}$$

21. Convert (you must have these conversions memorized now!):

a. 54 oz = 3.375 lb
1 lb = 16 oz

$$54 \text{ oz} \times \frac{1 \text{ lb}}{16 \text{ oz}}$$

b. $4\frac{2}{3}$ yd = 14 ft
1 yd = 3 ft

$$\frac{14 \text{ yd}}{3} \times \frac{3 \text{ ft}}{1 \text{ yd}}$$

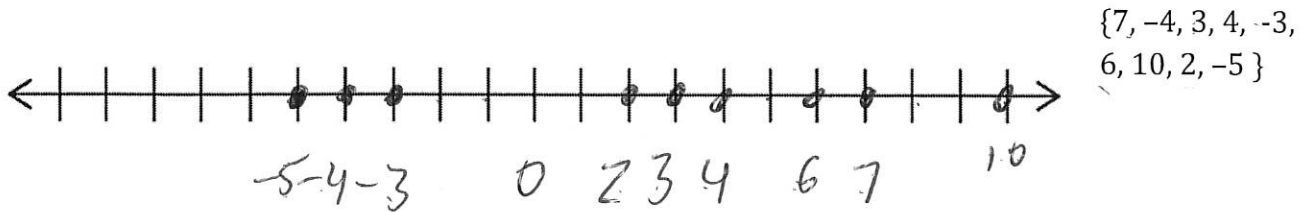
c. $4\frac{1}{4}$ qt = 8.5 pt
1 qt = 2 pt

$$\frac{17 \text{ qt}}{2} \times \frac{2 \text{ pt}}{1 \text{ qt}} = \frac{17}{2} \text{ pt}$$

d. $3\frac{1}{5}$ T = 6400 lb
1 T = 2000 lb

$$\frac{16 \text{ T}}{5} \cdot \frac{2000 \text{ lb}}{1 \text{ T}} = 6400 \text{ lb}$$

22. Graph the set of integers on the number line. Label the points



23. Evaluate each expression

a. $|31| + |-5|$

$31 + 5 = 36$

b. $|-28| - |-1|$

$28 - 1 = 27$

c. $|-101| - |-1|$

$101 - 1 = 100$

d. $|10| - |-15|$

$10 - 15 = -5$

24. Give an example of a point in each of the following locations:

a. Quadrant II $(-2, 3)$

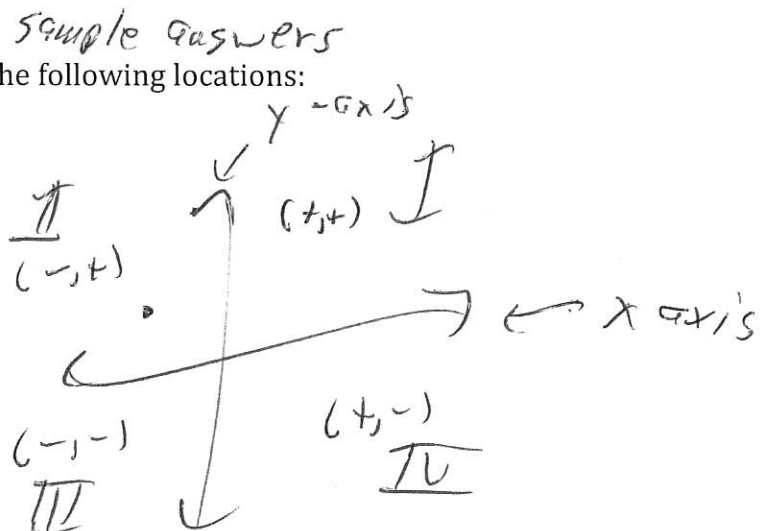
b. Quadrant IV $(3, -4)$

c. Y-axis $(0, 3)$

d. Quadrant I $(2, 1)$

e. Quadrant III $(-3, -5)$

f. X-axis $(4, 0)$



25. Find the value of each expression

a. $3^2 \times 5 - 3 \times 2$

$9 \times 5 - 3 \times 2$

$45 - 6 = 39$

b. $9 + 4^2 \div 8 \times 3$

$9 + 16 \div 8 \times 3$

$9 + 2 \times 3$

$9 + 6 = 15$

26. Give an example of each of the following properties

a. Associative



b. Commutative

c. Distributive

27. Simplify each expression

a. $12y + 5x + 8y + 3x$

~~20~~ $8x + 20y$

b. $3(2x + 5y) + 4x$

$6x + 15y + 4x = 10x + 15y$

28. Factor the expression $15x + 30y$

$15(x + 2y)$

29. Use the expression $4 + 2y + 4x + 12 + 3y + 9 + 7x$ and state the following:

a. Coefficients

$(2)y, (4)x, (3)y, (7)x$

b. Constants

$4, 9, 12$

c. Like terms

① 4 and 9

② $4x$ and $7x$

③ $2y$ and $3y$