Curtice 7/8 Math

**Integers & Absolute Value**

**Date:**

**Evaluate:**

**1.** -5 + 12 = _____

**2.** -2 – 8 = _____

**3.** 9 + (-21) = _____

**4.** 3 – (-6) = _____

**5.** 7 x -6 = _____

**6.** -3(-12) = _____

**7.** -45 ÷ -3 = _____

**8.** -56/7 = _____

**9.** |-11| = _____

**10.** |18| = _____

**11.** |-17| – |-24| = _____

**12.** |9 – 14| = _____



**Fractions, Decimals, & Percents**

**Date:**

**1.** Write as an improper fraction: $5\frac{3}{7}$

**2.** Write as mixed number: $-\frac{9}{4}$

**3.** Complete the chart:

| Fraction | Decimal | Percent |
|---|---|---|
| $\frac{16}{25}$ | | |
| | | 3% |
| | $-0.\overline{1}$ | |
| $1\frac{11}{12}$ | | |

**Adding & Subtracting Fractions**

**Date:**

**Find the sum or difference. Write your answer in simplest form.**

**1.** $\frac{4}{7}+\frac{1}{3}$

**2.** $1\frac{3}{8}-\frac{1}{12}$

**3.** $4\frac{3}{10}-\left(-2\frac{4}{5}\right)$

**4.** $9\frac{2}{9}+\left(-8\frac{5}{6}\right)$



**Fraction Applications (Add/Sub)**

**Date:**

**1.** On average, it takes Xavier $2\frac{1}{6}$ hours to drive to his Mom's house. After $1\frac{3}{4}$ hours, how many hours does he have left to drive?

**2.** Sam made a slideshow with two songs that play in the background. One is $2\frac{5}{6}$ minutes and the other is $4\frac{7}{10}$ minutes. If both songs play in full, how long is the show?



PW4

## Exponents

**Date:**

**Rewrite the expression using exponents:**

**1.** $5 \cdot a \cdot b \cdot b \cdot 5 \cdot c \cdot a \cdot b \cdot 5 \cdot b$

**Evaluate:**

**2.** $4^9$ **3.** $6^2 \cdot 2^5$ **4.** $\left(\frac{1}{3}\right)^3 \cdot (-18)^2$

**Rewrite using positive exponents:**

**5.** $x^{-6}$ **6.** $5^{-3} \cdot 3^{-1}$ **7.** $a^{-7} b^0 c^4$



## Square Roots & Cube Roots

**Date:**

**Find each square root. Approximate to the nearest tenth if necessary.**

**1.** $\sqrt{256}$ **2.** $-\sqrt{25}$ **3.** $\sqrt{28}$ **4.** $-\sqrt{\frac{4}{49}}$

**Between which two consecutive integers does the square root lie?**

**5.** $\sqrt{114}$ **6.** $-\sqrt{42}$

**Find each cube root.**

**7.** $\sqrt[3]{8}$ **8.** $\sqrt[3]{3,375}$ **9.** $\sqrt[3]{-216}$

**Multiplying & Dividing Fractions**

**Date:**

**Find the product or quotient. Write your answer in simplest form.**

**1.** $\frac{2}{9} \cdot \frac{3}{5}$

**2.** $2\frac{3}{5} \cdot 1\frac{3}{7}$

**3.** $\frac{4}{7} \div \frac{8}{9}$

**4.** $3\frac{4}{9} \div 2\frac{1}{3}$



**Fraction Applications (Mult/Div)**

**Date:**

**1.** It takes Rob $1\frac{7}{9}$ hours to cut the grass. If his son helps him, it takes $\frac{5}{8}$ as long. How long does it take Rob and his son to cut the grass?

**2.** Mrs. Kettler has $3\frac{1}{3}$ pounds of candy to distribute evenly to her four children. How much candy will each child get?

**Scientific Notation**

**Date:**

**Convert to standard form:**

**1.** $6.5 \times 10^{-7}$

**2.** $1.5806 \times 10^{4}$

**Convert to scientific notation:**

**3.** 0.00675

**4.** 2,780,000

**Determine if the number is correctly written in scientific notation. If not, correct it!**

**5.** $98.1 \times 10^{2}$

**6.** $0.7 \times 10^{-4}$



**Comparing & Ordering Numbers**

**Date:**

**1.** Rewrite the list of numbers from **least to greatest**:

$\sqrt[3]{5},\ \frac{2}{9},\ 2\%,\ 2.2 \times 10^{-2},\ \frac{11}{50},\ 5^{-1}$

**2.** Rewrite the list of numbers from **greatest to least**:

$\frac{11}{7},\ 160\%,\ 1.\overline{5},\ 1\frac{29}{50},\ \sqrt{2},\ 1.57 \times 10^{1}$

**Order of Operations**

**Date:**

**Evaluate each expression:**

**1.** $(10-2)^2 \div 4(2) - |-35|$

**2.** $\sqrt{9} - 2^7 + 16 \cdot 9$

**3.** $4 - \sqrt[3]{27} + 7(12 - 2^2)$

**4.** $\dfrac{(3+1)\cdot 10^2 - 5^3}{1 - 6^2 + 10}$



**Evaluating Expressions**

**Date:**

**Evaluate each expression:**

**1.** $2(y+3) - \sqrt{xz}$ (if $x$ = 2, $y$ = -5, and $z$ = 18)

**2.** $2n^2 - 4n + 5$ (if $n$ = -3)

**3.** $|3a| - \dfrac{5}{4}b$ (if $a$ = -7 and $b = \dfrac{2}{15}$)



pw - 2

## The Real Number System

**Date:**

**Name the smallest subset of Real Numbers that contains the following:**

**1.** -4 **2.** $\sqrt{130}$ **3.** $-2\frac{1}{4}$ **4.** -18.2

**5.** $\pi$ **6.** $-\sqrt{324}$ **7.** $\frac{51}{99}$ **8.** 0

**9.** $\sqrt[3]{343}$ **10.** $5^{-2}$ **11.** $8\times10^{-5}$ **12.** $-\sqrt{7}$



## Properties

**Date:**

**Name the property that justifies each statement:**

**1.** 5 + (3 + 8) = 5 + (8 + 3) _____

**2.** -7$m$ + 0 = -7$m$ _____

**3.** $8\cdot1=8$ _____

**4.** $(5\cdot3)\cdot-2=5\cdot(3\cdot-2)$ _____

**5.** $6(8-3)=6\cdot8-6\cdot3$ _____

**6.** $42\cdot0=0$ _____

**7.** 19 + -19 =0 _____

**8.** $\frac{1}{2}(x+10)=\frac{1}{2}x+5$ _____

**Translating Expressions**

**Date:**

**Translate the following expressions:**

**1.** "five more than 3 times a number" _____

**2.** "the quotient of twice a number and 7" _____

**3.** "10 less than a number" _____

**4.** "the product of -6 and a number" _____

**5.** "13 more than a number" _____

**6.** "25 less than one-third of a number" _____

**7.** "the sum of a number squared and 14" _____

**8.** "$18 per pound of steak" _____



**Combining Like Terms**

**Date:**

**Simplify each expression:**

**1.** $9 - 6x + 5$

**2.** $5x - 7 - 3x + 5$

**3.** $-7p - 1 - 9p + 5$

**4.** $15h - 6 - 8 + 7h$

**5.** $-27 + 8w + 4 - w$

**6.** $19a - 6b + b - 6a$

## Distributive Property

**Date:**

**Simplify each expression:**

**1.** $4(x + 4)$

**2.** $2(w - 8)$

**3.** $-8(v - 7)$

**4.** $-3(y + 9)$

**5.** $6(2x + 4)$

**6.** $-4(1 - 7x)$



## Simplifying Expressions

**Date:**

**Simplify each expression:**

**1.** $-4(x + 2) - 3x$

**2.** $2(1 - 2p) + 9p$

**3.** $10(v - 2) - v + 4$

**4.** $3(10y - 3) + 12y + 5$

**5.** $8k - 3(4k - 7) + 27$

**6.** $9c + 2(c - d) - (8c + 3d)$

## Unit Rates

**Date:**

**1.** Cady stamped 250 envelopes in 10 minutes. How many **envelopes per minute** did she stamp?

**2.** It took Max 5 minutes to type 410 words. How many **words per minute** does Max type?

**3.** Ciera's car used 5 gallons to drive 135 miles. How many **miles per gallon** does her car get?



## Unit Prices

**Date:**

**Use unit rates to find the better deal:**

**1. Option A)** 17-oz box of cereal for $4.89
**Option B)** 21-oz box of cereal for $5.69

**2. Option A)** a pack of 6 pens for $4.74
**Option B)** a pack of 15 pens for $12.72

**3. Option A)** $6.19 for a 56-oz bottle of dish soap
**Option B)** $4.09 for a 38-oz bottle of dish soap

**Proportional vs Nonproportional Relationships**

**Date:**

**Determine if the data in the table represents a proportional relationship. If yes, give the rate.**

**1.**

| Minutes | 3 | 4 | 5 | 6 |
|---|---|---|---|---|
| Feet | 5 | 7 | 8 | 10 |

**2.**

| Pounds of Candy | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Cost | $4.38 | $6.57 | $8.76 | $10.95 |

**3.**

| Seconds | 5 | 8 | 12 | 18 |
|---|---|---|---|---|
| Gallons | 2 | 3.2 | 4.8 | 7.2 |



**Proportions**

**Date:**

**Do the following ratios form proportions?**

**1.** $\frac{12}{14}, \frac{6}{7}$ **2.** $\frac{8}{7}, \frac{10}{9}$ **3.** $\frac{10.5}{6.3}, \frac{7}{4.2}$

**Solve the following proportions:**

**4.** $\frac{x}{9} = \frac{4}{15}$ **5.** $\frac{10}{13} = \frac{5}{y}$ **6.** $\frac{27}{19} = \frac{m}{7.6}$

## Special Solutions

**Date:**

**Solve each equation:**

**1.** $7x - 9 = 7x + 16$

**2.** $4(5 - 2v) = 4 - 8(v - 2)$

**3.** $2(3n + 8) = -30 - (6n + 2)$

**4.** $-4(4r - 5) = 34 - 2(8r + 7)$



## Clearing Fractions

**Date:**

**Solve each equation by clearing fractions:**

**1.** $a - \frac{25}{8} = -\frac{57}{8}$

**2.** $\frac{17}{8}m + \frac{17}{10} = -\frac{17}{40}$

**3.** $-\frac{2}{3} = -\frac{5}{3} - \frac{7}{4}p$

**4.** $\frac{11}{4}v - \frac{85}{12} = \frac{6}{5}v + \frac{2}{3}$

## Translating Equations

**Date:**

**Translate the following equations:**

1. "The product of 7 and a number is 63." _____
2. "5 subtracted from 3 times a number is 44." _____
3. "The quotient of a number and -6, increased by 8, is -11." _____
4. "10 less than a number squared is 71." _____
5. "The difference between four-fifths of a number and 11 is -46." _____
6. "The sum of a number and 10, divided by 8, is -2." _____



## Word Problems (One- and Two-Step Equations)

**Date:**

**Define a variable, set up an equation, and solve:**

1. Three-fourths of the runners finished the St. Patrick's Day marathon. If 1,602 runners finished, how many entered the race?
2. There are 15 fewer runners on varsity track than junior varsity track. If there are 41 runners on junior varsity track, how many are on varsity?
3. Luke is 5 years older than twice his younger brother Thomas. If Luke is 19, how old is Thomas?

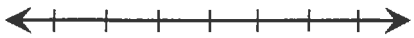
## Two-Step Inequalities

**Date:**

**Solve and graph each inequality:**

**1.** $2w + 5 > 45$

**2.** $\frac{y}{-5} + 4 \geq 1$



**3.** $-3n + 8 > -4$

**4.** $\frac{a}{8} - 4 \leq -2$



## Multi-Step Inequalities

**Date:**

**Solve and graph each inequality:**

**1.** $6x - 5 - 8x \leq -3$

**2.** $3m - 6 > 3(2m + 7)$

**3.** $-\frac{8}{5}\left(\frac{5}{4}k - 20\right) \leq 2(2k + 7)$

## Word Problems (Multi-Step Equations)

**Date:**

**Define a variable, set up an equation, and solve:**

**1.** The sum of two numbers is 105. If the larger number is 13 more than the smaller number, find both numbers.

**2.** Rick and Nate were in a chicken wing eating contest. Rick ate seven less than twice the number of chicken wings that Nate ate. If they ate 50 wings combined, how many did Rick eat?



## Writing & Graphing Inequalities

**Date:**

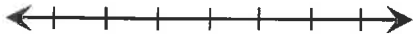
**Graph each inequality:**

**1.** $x \geq 14$

**2.** $k < -3$

**3.** $m > -9$

**4.** $a \leq 7.5$



**Translate each inequality:**

**5.** "A number is no more than 11."

**6.** "A number is at least -17."

**7.** "A maximum number of 25."

## Two-Step Inequalities

**Date:**

**Solve and graph each inequality:**

**1.** $2w + 5 > 45$

**2.** $\frac{y}{-5} + 4 \geq 1$

**3.** $-3n + 8 > -4$

**4.** $\frac{a}{8} - 4 \leq -2$



## Multi-Step Inequalities

**Date:**

**Solve and graph each inequality:**

**1.** $6x - 5 - 8x \leq -3$

**2.** $3m - 6 > 3(2m + 7)$

**3.** $-\frac{8}{5}\left(\frac{5}{4}k - 20\right) \leq 2(2k + 7)$

## Proportion Word Problems

**Date:**

1. A car on a racetrack drove 98 miles in 60 minutes. How far did it drive in 12 minutes?

2. If recycling 2,500 pounds of paper saves 20 trees, how many trees are saved when 4,000 pounds of paper are recycled?

3. Max put 38,250 miles on his car during the three years that he owned it. At this rate, how many miles would be on his car after 7 years?



## Scale Drawings & Models

**Date:**

1. A scale on a map uses ½ inch = 15 miles. If Austin and Houston are 6¾ inches apart, what is their actual distance?

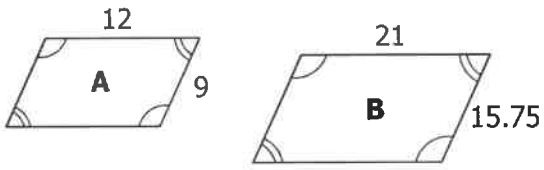
2. The blueprint for a new swimming pool uses the scale ¾ inch = 2 feet. If the actual dimensions of the pool will be 8 feet wide by 12 feet long, find the dimensions of the pool on the blueprint.

3. Erin made a scale model of a 70-foot tower. If the model is 40 inches tall, what scale did she use?

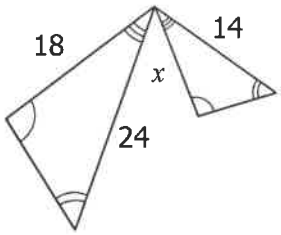
## Similar Figures

**Date:**

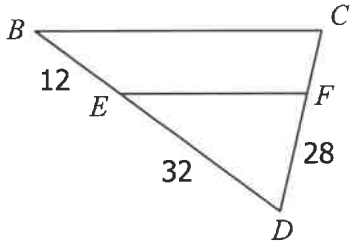
**1.** Find the scale factor of Figure A to Figure B:




**2.** Find $x$.




**3.** Given $\Delta DBC \sim \Delta DEF$, find $DC$.






## Indirect Measure

**Date:**

**1.** A fence post's shadow is 8 feet tall and a tree's shadow is 16 feet tall. If the fence post is 9 feet tall, how tall is the tree?

**2.** A tower casts a 30-foot shadow. At the same time, a person 6'6" feet tall casts a 4-foot shadow. How tall is the tower?

## Percents Review

**Date:**

**Write as a percent:**

**1.** $\frac{17}{20}$

**2.** $\frac{1}{50}$

**3.** 0.54

**4.** 0.3

**Write as a decimal and fraction.**

**5.** 90%

**6.** 5%



## Percent Proportion

**Date:**

**1.** 93 is what percent of 186?

**2.** What is 55% of 134?

**3.** 39 is 5% of what number?

**4.** Find 6.75% of 260.

**Percent Proportion Word Problems**

**Date:**

1. At East Middle, 60% of the students voted in an election. If there are 1500 students, how many voted?

2. Eleven of the 48 members of the football team are on the field. What percent of the members are playing?

3. On the written part of her driving test, Sara got 84% of the questions right. If Sara got 63 questions right, how many total questions were on the test?



**Discount & Mark-Up**

**Date:**

1. A $119.95 skateboard is on sale for 30% off. Find the final price.

2. How much would a $75 video game be with 8.25% sales tax?

3. Find the final price of a $149 iPod with a 10% discount and 5% sales tax.

## Percent of Change

**Date:**

**1.** Find the percent of discount when a $1200 TV sells for $875.

**2.** What is the mark-up rate on a $120 watch that sells for $160?

**3.** On the first season of "The Biggest Loser", Ryan went from 311 lbs to 208 lbs by the end of the season. Find his percent weight loss.



## Simple Interest

**Date:**

**1.** Suppose $1,250 is placed in a savings account for 2 years. Find the interest earned if the rate is 4.5%

**2.** A savings account starts with $575. Find the total amount in the account after 2 ½ years if the interest rate is 4.25%

**3.** Lily took out a 72-month car loan for $17,595. If she had a paid a total of $22556.79 at the end of the loan, find the interest rate.

## Relations & Functions

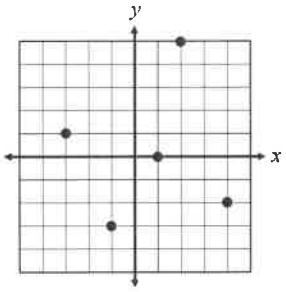
**Date:**

**1.** What is a relation?

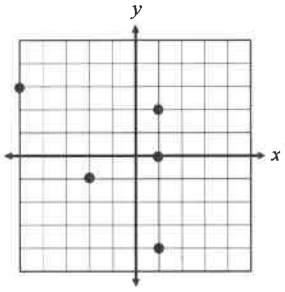
**Give the (a) domain, (b) range, and (c) determine whether the relation is a function.**

**2.** {(6, 1), (5, 0), (4, -1), (3, -2), (5, -3)}

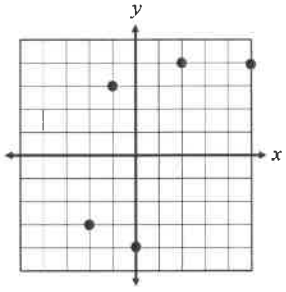
**3.**




**4.**




**5.**






## Equations as Functions

**Date:**

**1.** What is the range of the function $y = 2x - 3$ when the domain is {-1, 0, 5}?

**2.** Find the range of the function $y = \frac{1}{4}x + 1$ if the domain is {-8, -4, 0}.

**3.** Complete the table, then graph the function.

$$y = -1 - \frac{3}{2}x$$

| $x$ | $y$ |
|---|---|
| -4 | |
| 0 | |
| 2 | |
| 4 | |