

November 1-4, 2011
ALGEBRA

- * Tuesday, November 1, 2011
- * SW describe sequences using words and symbols and find terms of arithmetic sequences
- * 1. Complete review quiz
- * 2. Review student notes and determining outcomes using tree diagrams and the fundamental counting principle
- * 3. Complete class work assignment with a partner
- * 4. Begin homework

- * Lesson 4-2 Counting Outcomes
- * Tree Diagram:
- * Outcomes:
- * Sample Space:
- * Event:
- * Fundamental Counting Principle

- * Outcome or Sample Space.
 Outcome: 1 set of results
 Sample Space: list of all possible outcomes or results
- * Determine if each example is an outcome or a sample space.
- * 1. (1, 2, 3, 4, 5, 6) rolling a number cube Sample Space
- * 2. (H, T, H) tossing a coin three times Outcome
- * 3. (black, green) choosing a marble from a bag of black and green marbles Sample Space
- * 4. (dime, nickel, penny) choosing one coin from a bag of dimes, nickels, and pennies Sample Space
- * 5. (1, 3, 2, 3) rolling a number cube four times outcome
- * 6. (H,H)(H,T)(T,H)(T,T) tossing a coin twice Sample space

* Tree Diagram: graph that represents the outcomes (column has label) Each item has branches going out.

1. Using the table on page 147, draw a tree diagram to find the number of different sundaes that can be made.

I.C. T. W.C. Tree Diagram

ch < ch < Y < N < W.C.

bu < Y < N < W.C.

van < ch < Y < N < W.C.

bu < Y < N < W.C.

R.R. < ch < Y < N < W.C.

bu < Y < N < W.C.

Sundae comb. w/ W.C

6

- If you have to list outcomes.

- If you have to answer questions from data

* 2. Use a tree diagram to find the possible outcomes for tossing a coin three times.

T1 T2 T3

H < H < H
 T < T < T

T < H < H
 T < T < H

8 Outcomes

List all possible outcomes

(H, H, H) (H, H, T)
 (H, T, H) (H, T, T)
 (T, H, H) (T, H, T)
 (T, T, H) (T, T, T)

- * Fundamental Counting Principle: Multiply each data item by the next.
- * 1. Sweatshirts: There are 3 styles, in red or tan, in sizes small, medium, large, 1X, and 2X. Catina wants to buy a red sweatshirt in size large or 1X, in any style. How many choices does she have?

 Total Choices = $3 \cdot 2 \cdot 5 = 30$

 Catina choices $1 \cdot 2 \cdot 3 = 6$
- * 2. Suppose you roll a die twice and flip a coin once. Find the number of possible outcomes.

 $6 \cdot 6 \cdot 2 =$

 $36 \cdot 2 = 72$ outcomes

- * Class work: Page 148-149; 4-10 all
- * Homework: Page 149-150; 12-22 even
- * Read and take notes on pages 154-157
 - + Define: Multiplicative Inverse Property, and Inverse
 - + Include examples of dividing with decimals and fractions

- * Wednesday, November 2, 2011
- * SW divide rational numbers written as decimals and fractions
- * 1. Complete review quiz
- * 2. Review student notes and work through various examples on how to divide decimals and fractions
- * 3. Complete class work assignment with a partner
- * 4. Begin homework

- * L4-3: Dividing Rational Numbers
- * Terms you should have in your notes:
 - + Multiplicative Inverse
 - + Reciprocals

- * Dividing Decimals: $\frac{\text{divisor}}{\text{quotient}}$
 - + Steps: 1) Write using \div divided
 - 2) Move all decimals in the divisor + match in the dividend
 - 3) Divide
 - 4) Move up decimal
 - 5) Determine sign
- * Find each quotient:
 - 1) $16 \div (-2.5)$

$$\begin{array}{r} 25 \overline{) 16.0} \\ \underline{50} \\ 100 \\ \underline{100} \\ 0 \end{array}$$

 -6.4
 - 2) $-3.9 \div 3$

$$\begin{array}{r} 1.3 \\ 3 \overline{) 3.9} \\ \underline{3} \\ 09 \\ \underline{09} \\ 0 \end{array}$$

 -1.3
 - 3) $-8.4 \div (-1.2)$

$$\begin{array}{r} 1.2 \overline{) 8.4} \\ \underline{24} \\ 070 \\ \underline{60} \\ 100 \\ \underline{84} \\ 160 \\ \underline{120} \\ 400 \\ \underline{360} \\ 400 \\ \underline{360} \\ 400 \\ \underline{360} \\ 400 \\ \underline{360} \\ 400 \end{array}$$

 $+7$

- * Fractions
 - Keep, Change, Flip
 - + Steps: 1) Keep the first term
 - 2) Change \div to \times
 - 3) Find the reciprocal of 2nd term
 - 4) Multiply following fraction rules
 - 5) Determine sign
- * Find each quotient.
 - 1) $14 \div (-\frac{3}{5})$

$$\frac{14}{1} \div (-\frac{3}{5}) = \frac{14}{1} \cdot (-\frac{5}{3}) = \frac{42}{2} = -21$$

 To make a whole number a fraction, put over 1
 - 2) $-\frac{2}{7} \div (-\frac{5}{9}) = -\frac{2}{7} \cdot (-\frac{9}{5}) = \frac{18}{35}$
 - 3) $\frac{1}{6} \div \frac{14}{5} = \frac{1}{6} \cdot \frac{5}{14} = \frac{5}{84}$

 Mixed fraction - turn into improper fractions

 WJ • denom. + numer.

* Evaluate: Replace the far

* $x = \frac{3}{5}$

* 1) $\frac{4}{7x} = 4 \cdot \left[\frac{5}{7} \right]$

* 2) $4 \div \left[\frac{7}{1} \left(\frac{3}{5} \right) \right] = 4 \div \frac{21}{5}$

* 3) $\frac{4}{1} \cdot \frac{21}{5} = \frac{4}{1} \cdot \frac{5}{21} = \frac{20}{21}$

* Class Work: Page 156-157; 4-7 all, 8-16 even, 17

* Homework: Page 157-158; 19-53 every third, ~~46-48~~⁵²

* Read and take notes on pages 160-162

- + Define: Division and Multiplication Properties of Equality
- + Include examples of solving equations using multiplication and division

* Thursday, November 3, 2011

* SW learn to solve algebraic equations by undoing multiplication and division

1. Complete review quiz
2. Review student notes and work through various examples on how to undo multiplication and division to isolate a variable
3. Complete class work assignment with a partner
4. Begin homework

* L4-4: Solving Multiplication and Division Equations

* Terms:

- + Division Property of Equality
- + Multiplication Property of Equality

* Steps: Goal - get variable by itself
 1) Undo multiplication or division

* Solve each equation.

* 1. $4t = 28$ $t = 7$

* 2. $\frac{t}{4} = 8$ $\left(\frac{1}{4} \right) \frac{t}{4} = 8(4)$
 $t = 32$

* 3. $\frac{19.2}{-6} = \frac{-6d}{-4}$ $d = -3.2$ $\begin{array}{r} 3.2 \\ 6 \overline{) 19.2} \\ \underline{18} \\ 12 \\ \underline{12} \\ 0 \end{array}$

* 4. $\frac{5}{6}a = 25$ Multiply by the reciprocal when a fraction is next to the variable
 $\frac{6}{5} \left(\frac{5}{6} \right) a = 25 \left(\frac{6}{5} \right)$
 $a = \frac{25(6)}{5} = \frac{150}{5} = 30$

* 5. $\frac{-0.1m}{-0.1} = \frac{-7}{-0.1}$ $m = 70$

* 6. $36 = -\frac{3}{4}x$ $3 \left(\frac{4}{3} \right) = \left(-\frac{3}{4} \right) \left(-\frac{4}{3} \right) x$
 $\frac{36}{1} \left(-\frac{4}{3} \right) = x$
 $\frac{144}{3} = x$ $x = 48$

* Word Problems

* 1. The manager of a movie theater estimates that $\frac{5}{7}$ of the people who attend a matinee are children. How many people attended the 1:00 P.M. matinee today if 250 children's tickets were sold?

250 children $\left(\frac{7}{5} \right) \frac{5}{7} \cdot t = 250 \frac{1}{5}$
 $\frac{5}{7}$ of total are children $t = \frac{250 \left(\frac{7}{5} \right)}{1} = \frac{1750}{5} = 350$ people

* 2. Brian received a \$25 gift certificate from his grandparents for his birthday. How many \$2.35 packages of trading cards can he buy with the gift certificate?

\$25 = total $\frac{2.35c}{2.35} = \frac{25}{2.35}$ 10 pkgs
 2.35 each pkg $c = 10.63$

- × Class work: Page 163; 4-10 all
- × Homework: Page 163-164; 12-27 every third, 30-38 even
- × Read and take notes on pages 165-168
 - + Define consecutive integers
 - + Include examples of how to solve equations that have multiple steps



