Kuta Software - Infinite Pre-Algebra

Name_____

Add/Subtracting Fractions and Mixed Numbers

Date_____ Period____

Evaluate each expression.

1) $\frac{5}{4} - \frac{3}{4}$

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

3) $\frac{2}{5} + \frac{4}{5}$

4) $\frac{1}{3} - \frac{1}{3}$

5) $6 - \frac{1}{6}$

6) $\frac{1}{2} - \frac{1}{2}$

7) $\frac{1}{5} + \frac{1}{5}$

8) $\frac{7}{6} - \frac{5}{6}$

9) $\left(-\frac{4}{5}\right) - \frac{7}{8}$

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

11) $\left(-\frac{1}{3}\right) + \frac{3}{8}$

12) $\left(-\frac{10}{7}\right) + \frac{1}{6}$

13) $\frac{9}{5} + \left(-\frac{4}{3}\right)$

14) $2 - \frac{13}{8}$

Kuta Software - Infinite Geometry

Name_____

Date_____ Period____

Adding Square Roots

Simplify.

1) $-5\sqrt{6} - 2\sqrt{6}$

2) $-3\sqrt{5} + 2\sqrt{5}$

3) $-4\sqrt{3} + 3\sqrt{3}$

4) $-3\sqrt{6} - 4\sqrt{6}$

5) $-4\sqrt{10} + 5\sqrt{10}$

6) $-\sqrt{6} - 2\sqrt{6}$

7) $-\sqrt{7} - 5\sqrt{7}$

8) $-\sqrt{10} - 5\sqrt{10}$

9) $-3\sqrt{24} - 3\sqrt{2} + 2\sqrt{2}$

10) $-3\sqrt{45} - \sqrt{5} + 2\sqrt{2}$

Calculator Usage

Use a calculator to enter the following calculation all at once. Verify the answer.

1) $\frac{5(-2)+7}{2+3} - 5 = -0.6$

2) $\frac{1}{2}[(123 - 56) - 20] = 23.5$

3) $\left(3\sqrt{2}\right)^2 - \sqrt{30} = 12.52$

4) $\frac{65}{360}(12\pi) = 6.81$

5) $\frac{124}{4\pi} = 9.87$

6) $\frac{1}{2}(6 \cdot 5)8\sqrt{2} + 2(3 \cdot 6 \cdot 5) = 349.71$

7) $\frac{4}{3}\pi(12)^3 = 7238.23$

8) $\pi(6)^2 + \frac{1}{2}\pi(12)(10) + 12\pi(25) = 1244.07$

Comparing Numbers

Without using a calculator, use the symbols <, >, or = to compare the following values.

1) $\frac{1}{2}$ 0.75

2) $0.\overline{66}$ $\frac{2}{3}$

3) $\sqrt{20}$ 5

4) $\frac{2}{3}$ $\frac{3}{4}$

5) $\frac{6}{7}$ $\frac{3}{8}$

6) 3π 6

7) 1.25 $\frac{5}{4}$

8) $2\frac{4}{5}$ $\frac{9}{5}$

9) $\sqrt{30}$ 4π

10) $\frac{132}{45}$ $\frac{123}{54}$

Kuta Software - Infinite Pre-Algebra Name_____

Fractions and Decimals

Date_____ Period____

Write each as a decimal. Use repeating decimals when necessary.

1) $\frac{1}{4}$

2) $2\frac{3}{5}$

3) $\frac{5}{8}$

4) $\frac{3}{5}$

5) $\frac{7}{200}$

6) $\frac{8}{33}$

7) $\frac{6}{11}$

8) $\frac{7}{50}$

9) $4\frac{27}{125}$

10) $\frac{7}{20}$

Kuta Software - Infinite Geometry

Name_____

Dividing and Square Roots

Date_____ Period____

Simplify.

1) $\frac{\sqrt{3}}{\sqrt{48}}$

2) $\frac{\sqrt{12}}{\sqrt{4}}$

3) $\frac{\sqrt{20}}{\sqrt{5}}$

4) $\frac{\sqrt{8}}{\sqrt{100}}$

5) $\frac{\sqrt{15}}{\sqrt{125}}$

6) $\frac{\sqrt{6}}{\sqrt{8}}$

7) $\frac{4\sqrt{6}}{3\sqrt{8}}$

8) $\frac{2\sqrt{3}}{4\sqrt{27}}$

9) $\frac{2\sqrt{3}}{2\sqrt{12}}$

10) $\frac{4\sqrt{6}}{4\sqrt{27}}$

11) $\frac{3\sqrt{20}}{4\sqrt{16}}$

12) $\frac{3\sqrt{20}}{3\sqrt{36}}$

Kuta Software - Infinite Algebra 1

Name_____

Date_____ Period____

Evaluating Expressions

Evaluate each using the values given.

1) $y \div 2 + x$; use $x = 1$, and $y = 2$

2) $a - 5 - b$; use $a = 10$, and $b = 4$

3) $p^2 + m$; use $m = 1$, and $p = 5$

4) $y + 9 - x$; use $x = 1$, and $y = 3$

5) $m + p \div 5$; use $m = 1$, and $p = 5$

6) $y^2 - x$; use $x = 7$, and $y = 7$

7) $z(x + y)$; use $x = 6$, $y = 8$, and $z = 6$

8) $x + y + y$; use $x = 9$, and $y = 10$

9) $p^3 + 10 + m$; use $m = 9$, and $p = 3$

10) $6q + m - m$; use $m = 8$, and $q = 3$

11) $p^2 m \div 4$; use $m = 4$, and $p = 7$

12) $y - (z + z^2)$; use $y = 10$, and $z = 2$

13) $z - (y \div 3 - 1)$; use $y = 3$, and $z = 7$

14) $(y + x) \div 2 + x$; use $x = 1$, and $y = 1$

Kuta Software - Infinite Algebra 1

Name_____

Factoring Trinomials (a = 1)

Date_____ Period____

Factor each completely.

1) $b^2 + 8b + 7$

2) $n^2 - 11n + 10$

3) $m^2 + m - 90$

4) $n^2 + 4n - 12$

5) $n^2 - 10n + 9$

6) $b^2 + 16b + 64$

7) $m^2 + 2m - 24$

8) $x^2 - 4x + 24$

9) $k^2 - 13k + 40$

10) $a^2 + 11a + 18$

11) $n^2 - n - 56$

12) $n^2 - 5n + 6$

Kuta Software - Infinite Pre-Algebra Name_____

Multiplying/Dividing Fractions and Mixed Numbers Date_____ Period____

Find each product.

1) $-\frac{5}{4} \cdot \frac{1}{3}$

2) $\frac{8}{7} \cdot \frac{7}{10}$

3) $\frac{4}{9} \cdot \frac{7}{4}$

4) $-\frac{2}{3} \cdot \frac{5}{4}$

5) $-2 \cdot \frac{3}{7}$

6) $-2\frac{2}{3} \cdot 4\frac{1}{10}$

7) $-2\frac{1}{5} \cdot -1\frac{3}{4}$

8) $-1\frac{1}{4} \cdot 9$

9) $-1\frac{5}{7} \cdot -2\frac{1}{2}$

10) $-2\frac{3}{8} \cdot 2\frac{1}{2}$

Kuta Software - Infinite Geometry

Name_____

Multiplying Square Roots

Date_____ Period____

Simplify.

1) $\sqrt{5} \cdot \sqrt{5}$

2) $\sqrt{10} \cdot \sqrt{2}$

3) $\sqrt{8} \cdot \sqrt{8}$

4) $\sqrt{20} \cdot \sqrt{10}$

5) $\sqrt{3} \cdot \sqrt{3}$

6) $\sqrt{5} \cdot \sqrt{12}$

7) $2\sqrt{2} \cdot \sqrt{12}$

8) $\sqrt{5} \cdot 2\sqrt{2}$

9) $\sqrt{6} \cdot -2\sqrt{6}$

10) $\sqrt{2} \cdot -2\sqrt{5}$

11) $\sqrt{6} \cdot -\sqrt{9}$

12) $\sqrt{5} \cdot -5\sqrt{5}$

10

Kuta Software - Infinite Pre-Algebra

Name_____

Date_____ Period____

Order of Operations

Evaluate each expression.

1) $(30-3)\div 3$

2) $(21-5)\div 8$

3) $1+7^2$

4) $5\times 4-8$

5) $8+6\times 9$

6) $3+17\times 5$

7) $7+12\times 11$

8) $15+40\div 20$

9) $20+16-15$

10) $19-15-3$

11) $9\times(3+3)\div 6$

12) $(9+18-3)\div 8$

Kuta Software - Infinite Algebra 1 Name_____

Variable and Verbal Expressions

Date_____ Period____

Write each as an algebraic expression.

1) the difference of 10 and 5

2) the quotient of 14 and 7

3) u decreased by 17

4) half of 14

5) x increased by 6

6) the product of x and 7

7) the sum of q and 8

8) 6 squared

9) twice q

10) the product of 8 and 12

11) the quotient of 18 and n

12) n cubed

Write each as a verbal expression.

13) $\frac{x}{2}$

14) $a + 9$

15) $19 - 3$

16) $5n$

Kuta Software - Infinite Geometry

Name_____

Line Segments and Measure

Date_____ Period____

Use a ruler to measure the length of each line segment. Measure each segment in inches. Round your measurements to the nearest $\frac{1}{8}$ of an inch.

1) 

2)

3) 

4) 

5) 

6) 

7) 

8)

9) 

10) 

11) 

12) 

13) 

Vocabulary

Sum – answer to an addition problem

Difference – answer to a subtraction problem

Product – answer to a multiplication problem

Quotient – answer to a division problem

Factor – a number being multiplied

Coefficient – the constant value of an algebraic expression

Expression – a sum, difference, product or quotient containing variables and/or constants

Equation – a defined relationship between two expressions

Simplify – to do all operations that can be done (if there is no equal sign, you cannot solve for the unknown)

Factoring – to reverse the process of multiplication in order to identify the original factors

Solve – only equations can be solved for a variable

Evaluate – use substitution to rewrite an expression using only constants and find the overall value

Radicand – the expression found under a radical hat

Index – AKA "root" of a radical expression

Constant – a number or symbol that represents a constant value ($\pi \approx 3.14, e \approx 2.72$)

Variable – represented with a letter; its value will vary (change)

Integer – (..., -3, -2, -1, 0, 1, 2, 3, ...)

Irrational – a number that *cannot* be expressed as a fraction of integers ($\sqrt{3}, \pi, e, \ldots$)

Rational – any number that can be expressed as a *fraction* of integers ($\frac{1}{3}, 2.5, \sqrt{25}, \frac{\sqrt[3]{27}}{\sqrt{16}}, \ldots$)