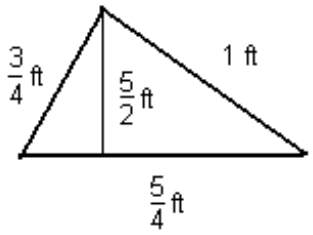
Problem Set 32

Answers

1. Use digits to write the number seventeen million, four hundred thirty-nine thousand, five hundred three. 17 439 503

2. Round 419 683 455 to the nearest ten thousand. 419 680 000

3. Compute the perimeter and area of the triangle shown on the picture below. Include units in your computation and answer. $P = 3$ ft $A = \frac{25}{16}$ ft^2



4. List all prime numbers between 30 and 50. 31, 37, 41, 43, 47

5. Compute the least common multiple of 100, 120, and 96. 2400

6. Consider the following numbers: 4801, 26 010, 1650, 6155, 807 605. Find all numbers from the list that are divisible by

   a) 6 26 010, 1650 b) 15 26 010, 1650 c) 20 neither

7. Compute $\frac{2}{9}$ of 270. 60

8. Write $\frac{3}{5}$ as a fraction with denominator 100. $\frac{60}{100}$

9. Reduce $\frac{72}{360}$ to lowest terms. $\frac{1}{5}$

10. Which fraction is greater, $\frac{4}{9}$ or $\frac{6}{13}$? $\frac{6}{13}$

11. Write $8\frac{1}{9}$ as an improper fraction. $\frac{73}{9}$

12. Write $\frac{58}{5}$ as a mixed number. $11\frac{3}{5}$

13. Perform the indicated operations. Show all steps.

    a) $\frac{1}{2} + \frac{2}{7} \cdot \frac{21}{8} =$ $\frac{5}{4}$

    b) $\frac{3}{4} \cdot \frac{12}{27} - \frac{1}{6} =$ $\frac{1}{6}$

    c) $5 \div \frac{3}{7} - \frac{5}{6} =$ $\frac{65}{6}$

d) $\frac{9}{10} - \frac{4}{15} \div \frac{3}{8} =$ $\frac{17}{90}$

e) $\left(\frac{1}{6}\right)^2 + \frac{7}{18} \cdot \frac{3}{21} =$ $\frac{1}{12}$

f) $\dfrac{1+3\left\{-2+5\left[1-2\left(-2+4^2 \div 2^2+1\right)\right]\right\}}{2\left\{-1+3\left[7-2^2\left(2\left(-5\right)+6\cdot 2\right)\right]\right\}} =$ 10

g) $7\left(5\cdot 2-3^2\right)+5\left(6^2+\left(-2\right)^5\right) =$ 27

h) $\dfrac{5^2-\left\{\left(2\cdot 7-2^4\right)+\left[2^2-\left(3^2-1\right)\right]^2-1\right\}}{12+\left\{6-\left[5-2\left(-5\right)\right]\right\}} =$ 4

14. Evaluate the expression $a^4 - 2a^3 + 10a^2 - a + 7$ if

a) $a = -2$ 81 b) $a = 0$ 7 c) $a = 2$ 45

15. Evaluate each of the following expressions if $x = \frac{1}{2}$ and $y = \frac{1}{3}$.

a) $(x-y)^2$ $\frac{1}{36}$ b) $x^2 - 2xy + y^2$ $\frac{1}{36}$

16. Evaluate each of the following expressions if $x = -5$ and $y = 2$.

a) $(x+y)^3$ -27 b) $x^3 + 3x^2y + 3xy^2 + y^3$ -27

17. Solve each of the following equations. Make sure to check your solution.

a) $3a - 17 = 7$ 8

b) $x + \frac{1}{3} = -\frac{1}{4}$ $-\frac{7}{12}$

c) $\frac{11x-3}{14} = 10$ 13

d) $p + \frac{2}{5} = 4\frac{3}{10}$ $\frac{39}{10}$

