

Math 10 – Unit 3 – 3.1 to 3.6; 4.1 to 4.6

To the Test – be sure to bring:

- (1) your personally-prepared 8 ½ “ by 11” study guide for this test
 - (2) your simple, non-graphing calculator and
 - (3) your pencils
 - (4) your BluGold ID
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1. Prime or Composite: Which of the following are COMPOSITE numbers? 5 8 31 45 99 101

2. Write **150** as a product of prime factors. Your answer: _____ x _____ x _____ x _____

Write **196** as a product of prime factors. Your answer: _____ x _____ x _____ x _____

3. Find the Greatest Common Factor (GCF) of **42** and **70** and find the GCF of **36** and **126**.

4. Write these fractions in simplest form: $\frac{42}{70}$ and $\frac{36}{126}$ and $\frac{84}{210}$.

5. Find the product. Simplify.

$$\frac{2}{5} \bullet \frac{5}{8} \bullet \frac{16}{49} \quad \text{and} \quad \frac{4}{5} \bullet \frac{15}{24} \bullet \frac{6}{7}$$

6. Find the quotient. Simplify. $\frac{5}{7} \div \frac{15}{28}$ and $\frac{9}{16} \div \frac{27}{36}$

7. Solve the equation for the value of x : $12x = 144$ and $-9x = 63$

8. Solve the equation for the value of x :

$$7x - 27 = 2x - 2 \quad \text{and} \quad 3x + 7 = 6x - 2$$

9. Solve the equation for the value of x :

$$9(x - 4) - 5x = x + 6 \quad \text{and} \quad 7(x - 9) = 7x - 18$$

10. Find the difference. $\frac{-2}{17} - \frac{9}{17}$ and $\frac{2}{15} - \frac{4}{15} + \frac{7}{15}$

11. Add the fractions $\frac{2}{9} + \frac{5}{27}$ and $\frac{4}{15} + \frac{3}{10}$

12. Multiply and simplify if necessary. $2\frac{3}{4} \cdot 3\frac{4}{5}$ and $\frac{2}{3} \cdot 1\frac{4}{5} \cdot \frac{5}{8}$

13. Divide and simplify if necessary. $3\frac{1}{5} \div 2\frac{2}{5}$ and $6 \div 4\frac{4}{5}$

14. Add or Subtract. $-3\frac{4}{15} + 4\frac{3}{20}$ and $5\frac{5}{13} - 2\frac{11}{13}$ and $5\frac{11}{12} - 2\frac{3}{8}$

15. Divide and simplify if necessary. $\frac{\frac{5}{8}}{\frac{3}{4}}$ and $\frac{5 + \frac{1}{5}}{17 - \frac{3}{10}}$

16. You have $\frac{7}{8}$ yards (yd) of material. You want to make **one** placemat. The instructions say $\frac{5}{6}$ yd of material is needed to make **one** placemat. After you make the **one** placemat, how much material will be left?

17. If a meat plant packages hamburger in $1\frac{3}{8}$ pound packages and the batch of beef to package weighs $9\frac{5}{8}$ pounds, how many packages can be made?

Chuck needs three shelves, one $10\frac{3}{8}$ inches long and the other two each $16\frac{1}{4}$ inches long. If he cuts the shelves out of a piece of lumber that is 48 inches long, approximately how much wood will he have left?

18. Solve the equation for the value of x : $\frac{x}{8} = -7$ and $\frac{3x}{5} = \frac{3}{10}$

19. Solve the equation for the value of x : $\frac{x}{5} - \frac{1}{15} = \frac{6x+13}{75}$

And $\frac{x}{20} - \frac{1}{10} = \frac{2}{5}$ and $\frac{x}{4} - \frac{1}{6} = \frac{4x-5}{12}$ and $\frac{3}{4}x - 2 = 7$

20. The sum of two consecutive odd integers is 72. Find the two integers.

Larry is 4 years older than Susan, and Nathan is twice as old as Susan. If the sum of their ages is 32 years, find each of their ages.

Fran worked twice as many hours as Jerry. Marcia worked 7 more hours than Jerry.
If they worked a total of 27 hours, find out how many hours each worked.

Let **J** represent the number of hours Jerry worked.

Jerry = J

What **expression**, in terms of J, represents the number of hours Fran worked?

Fran = _____

What **expression**, in terms of J, represents the number of hours Marcia worked?

Marcia = _____

What **equation** represents this problem? _____ = _____