

Algebra Workshop

Name: _____

Worksheet 3

1. Find the prime factorizations of the following numbers:

(a) 18

(b) 45

(c) 24

(d) 210

2. Evaluate:

(a) $\frac{1}{2} + \frac{1}{4}$

(b) $1 - \frac{1}{2}$

(c) $\frac{1}{3} - 1$

(d) $\frac{3}{2} - \frac{1}{4}$

(e) $\frac{1}{3} + \frac{2}{7}$

(f) $\frac{1}{8} + \frac{1}{4}$

3. Evaluate:

$$(a) \frac{2}{5} \cdot \frac{10}{3} - \frac{1}{3} \cdot \frac{6}{5}$$

$$(b) \frac{1}{3} \div \frac{5}{9}$$

$$(c) \frac{2/5}{3/8}$$

$$(d) \frac{1/3}{5}$$

4. Evaluate:

$$(a) \frac{3}{\frac{1}{2} - \frac{1}{4}}$$

$$(b) \frac{\frac{2}{5} - \frac{6}{7}}{8}$$

5. Solve the following problems. Give your answers to 2 decimal places.

(a) What is 41% of 30?

(b) What percent of 30 is 15?

(c) 20 is 40% of what?

(d) What is 150% of 300?

6. Sales tax in New York City is 8.875%.

(a) If the listed price of an item is \$10.99, what is the sales tax?

(b) If the listed price of an item is \$5.49, how much do you pay for the item (including the sales tax)?

7. A voter registration campaign in a particular city increases the number of registered voters by 25%. If there were 6000 voters before the campaign, how many are there afterwards?

8. A store is having a 30% sale on all of its shirts. (In the following problems, assume that there is no sales tax.)

(a) If a shirt was previously being sold for \$20, how much does it cost now?

(b) Zach buys a shirt from the store; he pays \$17.50 for the shirt. How much would the shirt have cost before the sale? (Be careful with this problem. Let x be the original cost of the shirt. Set up an equation involving x and then solve.)