7th Grade Assignment – Week #3

Note for Parent/Teacher:

- The Week #5 assignment will include an **arithmetic review test**. This test will be based upon problems both from the *Arithmetic Review Sheets* (that you worked on in the first two weeks), and the *Arithmetic* unit found at the start of the 7th grade workbook.

Individual Work:

- We will now begin work from the workbook! For this week, do your best to work through **Arithmetic – Sheet #2**. (See the next page. If you need extra practice, you can also do some of the problems from **Sheet #1**, as well)

Group Assignment for either Tuesday or Thursday

1. **Prime Factorization**
   - Find the prime factorization of 7128. (This is the one I started in the lecture by first dividing by 4 and getting
     $7128 = 4 \times 1782$
   - Find the prime factorization of 12,250.
2. **Puzzle – Sharing Oranges**
   Sara has 15 oranges, Bill has 9 oranges, and Stan has none. The oranges are divided equally between the three people, and then Stan is to pay $6 for his share. How can the $6 be divided fairly between Bill and Sara?
3. **Age Puzzle**
   Charlotte is two-thirds of Brianna's age. Fifteen years ago, Brianna was twice Charlotte's age. How old are they now?
4. **Age Puzzle**
   Annie is 8 years older than Ben. Ben is one year older than Annie was when she was 3 times older than Ben. How old is Annie now?
5. **Number Puzzle**
   Find a whole number such that if you take ¾ of it and then add ¾ you get another whole number. There are many solutions. (If you have extra time, you can make up similar puzzles for each other.)

Arithmetic – Sheet #1

Do it in your head

1) $400 \cdot 3000$
2) $8.46 \div 100$
3) $8.46 \cdot 1000$
4) $49 \cdot 11$
5) $42000 \div 600$
6) $3.5 \cdot 4$
7) $105 \cdot 108$
8) $512 - 497$
9) $3 \cdot 999$
10) $24 \cdot 99$
11) $3.6 \cdot 5$
12) $3.6 \div 5$
13) $27 - 3.7$
14) $0.3 \cdot 0.008$
15) $0.4 \div 0.008$
16) 13^2
17) $25 \cdot 6$
18) 3^4
19) 5^3
20) What is half of $\frac{8}{13}$?
21) What is half of $\frac{7}{13}$?

Quickly Estimate.

22) 485,036 + 225,672
23) $7364 \cdot 587$
24) 55,963 − 42,027
25) $5273 \div 886$

Division. Leave your answers as exact decimals (perhaps repeating). Use short division for single digit divisors.

26) $25{,}286 \div 47$
27) $4277 \div 25$
28) $0.0073 \div 0.06$
29) $7809 \div 1.37$

Fractions & Decimals

30) Convert fractions to decimals and decimals to fractions.

a) $\frac{93}{100}$

b) $\frac{9}{1000}$

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

d) $\frac{5}{6}$

e) $\frac{8}{11}$

f) $\frac{7}{24}$

g) 0.07

h) 0.043

i) 0.55

j) $0.\overline{3}$

k) 0.875

31) Convert to a mixed number.
$\frac{45}{7}$

32) Convert to an improper fraction.
$6\frac{4}{9}$

33) $\frac{5}{6} + \frac{2}{5}$

34) $\frac{48}{49} \cdot \frac{35}{48}$

35) $5\frac{3}{5} \cdot 1\frac{3}{7}$

36) $5\frac{3}{5} - 1\frac{3}{7}$

37) $5\frac{3}{5} \div 1\frac{3}{7}$

38) $\frac{5\frac{3}{5}}{1\frac{3}{7}}$

39) $(2⅓)^2$

40) 48.3 + 1.24

41) 48.3 − 1.24

42) 48.3 · 1.24

Powers & Roots

43) $(8)^2$

44) $(800)^2$

45) $(0.8)^2$

46) $(0.008)^2$

47) $(12)^3$

48) $(0.1)^5$

49) $\sqrt{64}$

50) $\sqrt{9000000}$

Arithmetic – Sheet #2

Do it in your head

1) $5.723 \cdot 100$

2) $435.7 \div 100$

3) $2.6 \cdot 11$

4) $0.14 \div 4$

5) $21 \div 33$

6) 15^2

7) $25 \cdot 5$

8) 25^2

9) 4^3

10) 5^4

11) $700 \cdot 80$

12) $160{,}000 \div 800$

13) What is $\frac{9}{20}$ doubled?

14) What is $\frac{9}{19}$ doubled?

15) $8.5 \cdot 4$

16) $1110 \cdot 1080$

17) $6023 - 5996$

18) $9999 \cdot 4$

19) $999 \cdot 14$

20) $6400 \cdot 5$

Divisibility.

State whether each number is evenly divisible by anything from 2 to 12 (but not 7).

21) 1,033,857

22) 1,378,416

Division.

Leave your answers as mixed numbers. Use short division for single digit divisors.

23) $1033857 \div 11$

24) $197400 \div 389$

25) $1378416 \div 9$

Powers & Roots

26) $(600)^2$

27) $(5.42)^2$

28) $(10)^5$

29) $(1)^{31}$

30) $(0.052)^3$

31) $\left(\frac{3}{4}\right)^2$

32) $\left(\frac{3}{4}\right)^3$

33) $\sqrt{4900}$

34) $\sqrt{1000000}$

35) $\sqrt[3]{1000000}$

36) $\sqrt[6]{1000000}$

Fractions & Decimals

37) Convert to a fraction.

a) 0.003

b) 0.08

c) 0.0125

d) $0.\overline{5}$

e) $0.\overline{6}$

38) Convert to a decimal.

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

b) $\frac{2}{11}$

c) $\frac{3}{20}$

d) $\frac{13}{99}$

e) $\frac{11}{25}$

f) $\frac{19}{60}$

39) Convert to a mixed number.

$\frac{67}{12}$

40) Convert to an improper fraction.

$10\frac{3}{7}$

41) Reduce.

a) $\frac{210}{490}$

b) $\frac{12600}{27000}$

c) $\frac{27000}{43875}$

42) $\frac{5}{6} - \frac{1}{4}$

43) $\frac{5}{9} + \frac{21}{25}$

44) $\frac{5}{9} \cdot \frac{21}{25}$

45) $78\frac{2}{3} - 76\frac{3}{4}$

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

47) $33 \div 3\frac{2}{3}$

Quickly Estimate.

48) $693 \cdot 79$

49) $2317 - 1824$

50) $51{,}893 + 16{,}256$

51) $36478 \div 491$