

# HCS Math Spiral 2016-17

## Learning Period 3

December 1 – January 31

**Objectives:** *Students should be able to multiply and divide fractions, add and subtract positive and negative integers, compute percents of whole numbers and make evaluate simple algebraic expressions in one variable.*

### **Daily independent review for students in grades 5 through 8.**

The goal of HCS Math Spirals is to refresh students on past material and fill in key holes that have been identified by upper grade math teachers as problem areas for many students. Our hope is that students will work independently to complete one problem set per day (2-3 problems) either before or after their daily math lesson. These problems should not take more than 10 minutes to complete. If your student takes longer than this, make a note of the math concept, move on, and come back to the problem set once you've covered the subject in a math lesson. The Math Spiral is not to be used as a one-day worksheet; effectiveness comes in the habit of daily, brief review.

To refresh concepts that may not be addressed in your current math curriculum, one great resource is Khan Academy online found at [www.khanacademy.org](http://www.khanacademy.org).

At the end of each learning period your Education Coordinator will have your student complete a short benchmark, in office, which will assess the concepts covered on the spiral they just completed.

**12/1** Find the product.

1.)  $15 \times \frac{1}{5}$

2.)  $15 \times \frac{2}{5}$

3.)  $15 \times \frac{3}{5}$

**12/2** Find the product.

1.)  $2 \times \frac{1}{2}$

2.)  $8 \times \frac{1}{2}$

3.)  $22 \times \frac{1}{2}$

**12/5** Find the product.

1.)  $\frac{2}{3} \times \frac{3}{4}$

2.)  $\frac{2}{3} \times \frac{1}{4}$

3.)  $5 \times \frac{1}{10}$

**12/6** Find the product.

1.)  $\frac{1}{4} \times \frac{3}{4}$

2.)  $\frac{2}{9}$  of  $\frac{3}{8}$

3.)  $\frac{3}{8}$  of  $\frac{2}{3}$

**12/7**

1.) Sam spends  $\frac{2}{3}$  of an hour each day in his garden. When he is in his garden, he spends  $\frac{1}{2}$  the time watering the plants. How much time does Sam spend watering the plants each day?

2.)  $\frac{3}{4} \times \frac{n}{2} = \frac{3}{8}$

3.)  $\frac{2}{3} \times \frac{n}{5} = \frac{8}{15}$

**12/8**

1.) One fourth of Sue's roses are yellow. She gives one third of the yellow roses to Judy. What fraction of her roses does she give to Judy?

2.) Neil has used  $\frac{2}{3}$  of the 51 pieces in his model kit. Victor has used  $\frac{2}{3}$  of the 72 pieces in his kit. Who has used more pieces?

**12/9** Solve.

1.)  $\frac{4}{7} + \frac{1}{3}$

2.)  $\frac{3}{5} - \frac{1}{10}$

3.)  $\frac{3}{10}$  of  $\frac{5}{9}$

**12/12**

1.) Find the reciprocal of  $\frac{5}{6}$

2.)  $\frac{4}{9} \div \frac{1}{3}$

3.)  $\frac{1}{2} \div \frac{1}{2}$

**12/13**

1.) Find the reciprocal of  $\frac{13}{3}$

2.)  $\frac{3}{4} \div \frac{3}{8}$

3.) Does multiplication or division make this statement true?  $\frac{3}{4} \square \frac{5}{12} = 1\frac{4}{5}$



**1/12** Solve.

1.)  $-6 - (-3)$

2.)  $-6 + 3$

3.)  $9 - (-3)$

**1/13** Solve.

1.)  $\frac{4}{9} \times \frac{3}{8}$

2.)  $4 - 5$

3.)  $-15 - 10$

**1/17** Solve.

1.)  $-8 - (-8)$

2.)  $\frac{3}{8} \div \frac{1}{4}$

3.) Compare using  $<$ ,  $>$  or  $=$ .  $(2 - 3) \square (-1 + 1)$

**1/18** Solve.

1.)  $3 - (-10)$

2.)  $-12 + 6$

3.)  $-3 + (-2)$

**1/19**

1.)  $-1 + (-2)$

2.) Order from least to greatest. 5, -7, 9, -8

3.) Will the sum of  $-9 + 12$  be positive or negative, how do you know?

**1/20**

1.) Solve.  $\frac{4}{5} - \frac{2}{5}$

2.) Compare using  $<$ ,  $>$ , or  $=$ .  $-20 \square -21$

3.)  $-4 - (-4)$

**1/23** Solve.

1.)  $12 \times \frac{1}{2}$

2.)  $12 \times 0.5$

3.)  $12 \times 50\%$

**1/24**

1.) Write  $\frac{11}{2}$  as a mixed number.

2.) Write  $4\frac{3}{8}$  as an improper fraction.

3.)  $3 + (-8)$

**1/25** Evaluate the algebraic expression.

1.)  $t + 4$ , when  $t = 5$

2.)  $n - 6$ , when  $n = 10.8$

3.)  $b - 4.5$ , when  $b = 30$

**1/26** Evaluate the algebraic expression.

1.)  $\frac{a}{4}$  when  $a = 24$                       2.)  $9 \times m$ , when  $m = 3$

3.) The area of a rectangle is  $24\text{in.}^2$ , the length is  $6\text{in.}$ , what is the height of the rectangle?

**1/27** Find the value of the variable.

1.)  $x + 9 = 14$

2.)  $5 \times y = 30$

3.)  $\frac{x}{6} = 6$

**1/30** Solve each equation for the variable.

1.)  $e + 6 = 17$

2.)  $21 = g + 4$

3.)  $m - 15 = 3.6$

**1/31**

1.)  $\frac{a}{6} = 2.5$

2.) What is the inverse operation of multiplication?

3.) What is the inverse operation of addition?