**Instructional Activity Resources for HSM-EO 1**

**Algebraic Expressions**

**Directions: Match the algebraic expression to the correct picture.**

card1: 
On the left there is a jar and a one piece of candy. In the middle there is an equals sign. On the right there is a picture of three pieces of candy. 

On the bottom the expression is d+1 = 3 is displayed. 


card2:
On the left there is a picture of a jar and three peices of candy. In the middle there is an equals sign. On the right there is a picture of five pieces of candy. On the bottom the expression h+3=5 is displayed. 

card3: 
On the left there is a picture of a basket and two apples. In the middle there is an equals sign. On the right there is a picture of eight apples. On the bottom the expression X+2=8 is displayed. 

card 4
On the left there is a picture of a basket and five apples. In the middle there is an equal sign. On the right there is a picture of thirteen apples. On the bottom the expression r+5=13 is displayed. 

card 5
On the left there is a picture of four fishing poles. In the middle there is an equals sign. On the right there is a picture of twelve fish. On the bottom the expression 4g=12 is displayed. 

card 6
On the left there is a picture of rwo fishing poles. In the middle there is an equals sign. On the right there is a picture of eight fish. On the bottom the expression 2b=8 is displayed. 

card 7
On the left there is a picture of five baskets. In the middle there is an equals sign. On the right there is a picture of fifteen apples. On the bottom the expression 5p=15 is displayed. 


card 8
On the left there is a picture of three fishing poles. In the middle there is an equals sign. On the right there is a picture of nine fish. On the bottom the expression 3c=9 is displayed. 

**Match Algebraic Expressions to Their Meaning**

| **Sentence** | **Expression** |
| --- | --- |
| **A number times 75** | **35 + t** |
| **A number minus 35** | **d - 30** |
| **A number divided by 30** | **r – 45** |
| **The sum of 35 and a number** | **g ÷ 5** |
| **The quotient of a number and 5** | **C ÷ 30** |
| **The product of a**  **number and 25** | **y - 35** |
| **A number decreased by 45** | **5 + p** |
| **five more than a number** | **25 f** |
| **Thirty less than a number** | **X • 75** |

**Instructional Activity Resources for HSM-EO 2**

**How Many Leftovers?**

**Directions:**

1. Pull a number card for your dividend. Write it on the first line of the problem.

2. Roll the 10-sided number cube for your divisor. Write it on the second line of your problem.

3. Put out enough squares for your divisor.

4. Pass out the counters evenly to all groups.

5. Write the number of leftovers for your turn.

6. Play for 5 rounds.

**Dividend**

**Divisor**

**Quotient**

**Remainders**

| **Total # of coins (card)** | **# of groups**  **(on dice)** | **# in each group** | **Leftovers** |
| --- | --- | --- | --- |

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ÷ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Remainders\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ÷ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Remainders\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ÷ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Remainders\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ÷ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Remainders\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Total Remainders: \_\_\_\_\_\_\_\_\_\_\_\_**

**Hook Algebraic Unknowns**

**To play the game:**

**1. Turn over an equation card. Solve by finding the value of the unknown.**

**2. Find the answer in the boxes below and place a colored chip in the box.**

**3. Play until you get three in a row.**

Row 1: f=2, n=1, p=5, p=9
Row 2: p=3, f=10, p+6, n=3
Row 3: f=3,n=9, f=6,f=13
Row 4: p=4, f=5, p=1, n=5
Row 5: n=2,  p=12, f=4, p=10

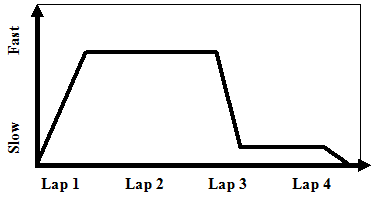
There are 10 cards with 5 rows of 2. 
Row 1: 45=n multiplied by 5, 3 multiplied by p = 27. 
Row 2: n times 3= 15, 12 divided by f = 6. 
Row 3: 36 divided by p = 9, 13 divided by f =1.
Row 4: 3p=18, 5n=5
Row 5: 40 divided by f = 4, p times 2=10. 

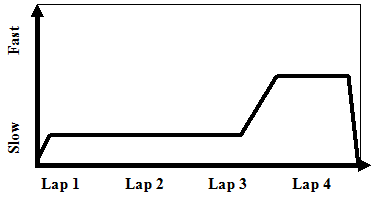
There are 10 cards in 5 rows of 2. 
Row 1: 24 divided by f =8, p times 1 = 12
Row 2: 15 divided by f =3, 27 divided by n = 9.
Row 3: 8p=10, f times 4 = 16
Row 4: 7n=14, 13=13 times p
Row 5: 8p=24, 4 times f = 24 

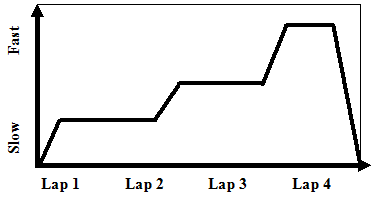

**Instructional Activity Resources for HSM-EI 3**

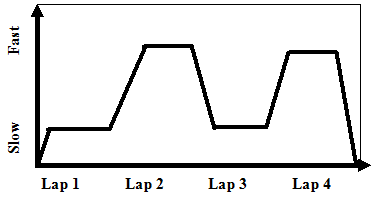
**The Shape of Graphs**

Directions: Match line graphs to the correct story based on the labels of the x and y axis as well as the slope of the line.









1. Jay walked the first lap. He ran the second lap. Then he walked the third lap and ran the 4th lap.
2. Jane ran the first two laps slowly, then she picked up speed on the third lap, and she ran very fast for the last lap.
3. Cody took off running as fast as he could at the start of the race. By lap 3 he was very tired so he walked the rest of the way.
4. Sydney and her friend walked the first 3 laps. Then the teacher told them to start running, so they ran the 4th lap.

**Instructional Activity Resources for HSM-FS 2**

**Each day, Maria walks from home to school and then from school to home. The graphs that follow show the distance that Maria is from home at different times during the walk.**

**Match the graphs to the descriptions of Maria’s walk shown to the right of the graphs. Next to each graph, enter the letter (1,2,3,4) of the description that best matches the graph.**

1. Maria walks from school to her friend’s house. She visits her friend for a while. Then she walks the rest of the way home.
2. Maria walks from home to school at a constant rate.
3. Maria starts to walk from home to school. She stops to see whether she has her homework. She realizes she forgot her homework and runs back home to get it.
4. Maria walks from school to home at a constant rate.

x axis represent time.
y axis represent distance from home.
The upper left graph: there is a line going downward and diagonally from the x axis to the y axis. 
The upper right graph: there is a line going upward and diagonally from the x axis to the y axis. 
The bottom left graph: The distance from home is decreasing and then stablizing and then decreasing again as time goes on. The bottom right graph: The distance from home is increasing with time and then stabilizes and then decreases with time. 

**Instructional Activity Resources for HSM-FS 4**

The left side of the table is labled Item and the right side of the table is labled cost. There are 9 rows underneath the left and right side of the table. 
Table 1:
Row 1: Item=0 and Cost=0
Row 2: Item is 1 and Cost is 1
Row3: Item is 2 and Cost is 2
Row 4: Item is 3 and Cost is 3
Row 5: Item is 4 and Cost is 4
Row 6: Item is 5 and Cost is 5
Row 7: Item is 6 and Cost is 6
Row 8: Item is 7 and Cost is 7
Row 9: Item =8 and Cost=8
Table 2: 
Row 1: Item is 0 and Cost is 0
Row 2: Item is 1 and Cost is 2
Row 3: Item is 2 and Cost is 4
Row 4: Item is 3 and Cost is 6
Row 5: Item is 4 and Cost is 8
Row 6: Item is 5 and Cost is 10
Row 7: Item is 6 and Cost is 12
Row 8: Item is 7 and Cost is 14
Row 9: Item is 8 and Cost is 16
Table 3: 
Row 1: Item is 0 and Cost is 0
Row 2: Item is 1 and Cost is 5
Row 3: Item is 2 and Cost is 10
Row 4: Item is 3 and Cost is 15
Row 5: Item is 4 and Cost is 20
Row 6: Item is 5 and Cost is 25
Row 7: Item is 6 and Cost is 30
Row 8: Item is 7 and Cost is 35
Row 9: Item is 8 and Cost is 40

the first graph:
x axis represent number of items;
y axis represent cost;
as the number of items increased the cost also increased. 
the second graph:
x axis is the number of items;
y axis is the cost;
as value of x increases, the value of y increased twice as much. 



the first graph: How Much Will It Cost 
The X axis is number of items;
The Y axis is the cost;
as value of x increases, the value of y increases by 5. 
