**In class Assignment Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**PR5: Polynomials – Properties and Simplification**

**1.** Complete the following table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | –8*y* | 12 | –2*b*2 – *b* + 10 | –4 – *b* |
| **Variable** |  |  |  |  |
| **Degree** |  |  |  |  |
| **Coefficient(s)** |  |  |  |  |
| **Constant** |  |  |  |  |
| **Monomial, Binomial, or Trinomial** |  |  |  |  |

**2.** Draw a line between the equivalent polynomials in column 1 and column 2. An equivalent polynomial would be represented using the same number of algebra tiles.

|  |  |  |
| --- | --- | --- |
| **Column 1** |  | **Column 2** |
| –*a*2 – 3 + 4*a* |  | –3 + 5*m* |
| 5*z* – 3 |  | –2 + *c*2 + 5*cd* |
| *y*2 + 5*xy* – 2 |  | –3 + 4*h* – *h*2 |

**3.** Model the following polynomials using algebra tiles.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| –5 + *y*2 | 2*x* – 1 | –3*a*2 *–* 2*a* + 1 | 3*z* | *v*2 – 4*v* |
|  |  |  |  |  |

**4.** Write a polynomial using the following conditions.

**a)** A binomial with degree one and a constant of 4.

**b)** A trinomial with a degree of 2 and a coefficient of negative 2.

**5.** Draw the model for each of the following polynomials. Cancel out null pairs and write the simplified answer in the boxes below.

|  |  |
| --- | --- |
| 4 + *x* + 1 + 5*x* + 1 | 3*y* + 7*y*2 + 1 – *y* – 2*y* – 3*y*2 |
|  |  |
| Simplification : | Simplification : |

**6.** Simplify the following polynomial symbolically:

|  |  |
| --- | --- |
| **a)** 7*d* – 2*d* + 1 – 6 | **b)** –5 – 3 – *k* – 5*k* |
| **c)** –4 + 2*a* + 7 – 4*a* | **d)** 3*p* – 6 – 4*p* + 6 |
| **e)** 3*a*2 – 2*a* – 4 + 2*a* – 3*a*2 + 5 | **f)** 7*z* – *z*2 + 3 + *z*2 – 7 |
| **g)** *d*2 + 3*d* + 1 + 4*d*2 + 2 | **h)** –6*x*2 + 10*x* – 4 + 4 – 12*x* – 7*x*2 |
| **i)** *x* – 5 + 2*x* + 2 | **j)** *b*2 + 3*b* + *b*2 – 3*b* |
| **k)** 3*m*2 + *m* –10*m*2 – *m* – 2 | **l)** –3*d*2 + 2 –2 –7*d*2 + *d* |