Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5.7 – 5.8 Algebra 2 CP Quiz Review

1. Expand each binomial.

a) (x + y)7

b) (2x – 3y)4

c) (a + 5b)3

2. Use Pascal’s triangle to answer the following questions.

a) What is the second term of the 15th row?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) What is the sum of the 18th row?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) How many terms are in the 10th row?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Find a polynomial function whose graph passes through each set of points.

a) (0, 3), (-1, 0), (1, 10) and (-2, -35)

b) (-2, 16) and (4, 13)

c) (-1, 7) , (1, 1) and (2, 1)

4. The table shows the annual population of Florida for selected years.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | 1970 | 1980 | 1990 | 2000 |
| Population (millions) | 6.79 | 9.75 | 12.94 | 15.98 |

a) Find the linear model for the above data.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) Use your model to estimate the population of Florida in 2020.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) Is 2020 an interpolation or an extrapolation?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| X | -2 | -1 | 0 | 1 | 2 |
| Y | -7 | -3 | 3 | 5 | -3 |

a) Find a cubic model for the data:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) Find a quartic model for the data:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) Which model fits the data better?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d) Use that model to predict y when x = 4:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_