

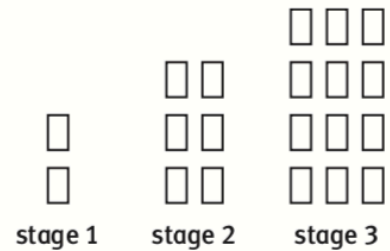
Pre-AP Precalculus

Unit 2 Pre-Assessment

Write your answers on notebook paper or grid paper. Show your work.

1. Simplify $\left(\frac{6x^2}{y^3}\right)^2$.
2. Multiply.
 - a. $(2x^2 + 1)(2x - 1)$
 - b. $(x - 2 + 3i)(x - 2 - 3i)$
3. Factor $x^2 - 6x + 5$. Then solve $x^2 - 6x + 5 = 0$.
4. Evaluate. $\frac{3^{327}}{3^{323}}$.
5. Use synthetic division to divide $x^3 - 7x - 6$ by $x + 2$.
6. Find the x - and y -intercepts of $y = -2(x - 3)^2 + 4$.
7. Describe the pattern displayed by 1, 2, 5, 10, 17,
8. A simple interest loan with a principal of \$5000 is paid back after $2\frac{1}{2}$ years. The total payment is \$5875. What was the annual rate of interest on the loan?

9. Draw the fourth stage of the figure below. Explain how you would create any figure in the pattern and find the number of squares.



10. Find a linear regression model for the data.

x	y
1	4
3	8
4	10
5	13