3.4 Do Now: Post-Regents Week review

A.SSE.3c Exponent properties

- 1. Identify the expressions that are equal to $\frac{2^2}{2^4}$
 - (a) 2^6

- - (f) 0.5
- 2. Identify the expressions that are equal to 2^{-3}
 - (a) 2.333...
 - (b) $\sqrt{2}$

- 3. Identify the expressions that are equal to $9^{\frac{1}{2}}$
 - (a) 9.5
 - (b) $\sqrt{3}$

- (f) 4.5

A2-F.BF.2 Write arithmetic and geometric sequences with recursive formulas

4. Write a recursive definition of the sequence $a_1 = 3$, $a_2 = 6$, $a_3 = 12$, $a_4 = 24$, ... $\gamma = 2$

$$a_{1} = 3$$
 $a_{n} = 2 a_{n-1}$

- 5. A geometric sequence begins 1, 3, 9,

 - (b) Find the common ratio r.

$$S = / \left(\frac{1-3}{3}\right) =$$

- (c) Find the sum of the first six terms of the sequence. $S = \left(\frac{1-3}{1-3} \right) = \frac{-720}{-2} = 427$ (d) Find the sum of the first six terms of the sequence.
- (d) Find the sum of the first 20 terms of the sequence.

Sum of the first 20 terms of the sequence.
$$S = \left(\left(\frac{1-3}{1-3} \right) = 1,743,392,2000 \right)$$

6. Find all values of x that make the equation true.

$$\chi(x-1) = \left(\frac{12}{x}\right) \chi$$

$$\chi^2 - \chi = 12$$

$$\chi^2 \cdot \chi - 12 = 0$$

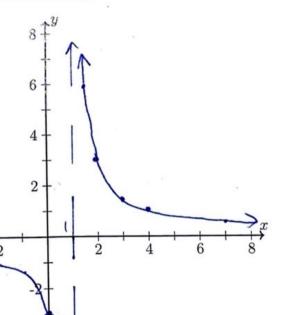
$$(\chi - 4)(\chi + 3) = 0$$

$$\chi = 4, -3$$

$$(4-1=(2))$$
 $3=3$
 $(-3)-1=(-3)$
 $-4=-4$

- 7. Given the rational function $r(x) = -1 + \frac{x+2}{x-1}$. (F.IF.7d Graph rational functions)
 - (a) Sketch a graph of the function.
 - (b) Mark the vertical asymptote as dotted line and label it with its equation.
 - (c) Explain why the asymptote is located there.

when x=1 the function is undefined $r(1) = -1 + \frac{(1)+2}{(1)-1+2} = -1 + \frac{3}{0}$



asymptote

Zero in the Denominator