

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
 - (b) $\frac{1}{2^2}$
 - (c) 2^{-2}
 - (d) $\frac{1}{4}$
 - (e) 2^2
 - (f) 0.5
2. Identify the expressions that are equal to 2^{-3}
 - (a) $2.333\dots$
 - (b) $\sqrt{2}$
 - (c) $\frac{1}{2^3}$
 - (d) $\frac{1}{8}$
 - (e) 6
 - (f) 0.125
3. Identify the expressions that are equal to $9^{\frac{1}{2}}$
 - (a) 9.5
 - (b) $\sqrt{3}$
 - (c) $\sqrt{9}$
 - (d) 3
 - (e) 81
 - (f) 4.5

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

4. Write a recursive definition of the sequence $a_1 = 3$, $a_2 = 6$, $a_3 = 12$, $a_4 = 24, \dots$
5. A geometric sequence begins $1, 3, 9, \dots$
 - (a) Write the first six terms of the sequence.
 - (b) Find the common ratio r .
 - (c) Find the sum of the first six terms of the sequence.
 - (d) Find the sum of the first 20 terms of the sequence.

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

(A.REI.4 Solve quadratics)

$$x - 1 = \frac{12}{x}$$

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.

