3.7 Pretest: Exponents

A.SSE.3c Exponent properties

Do Not Use a Calculator

1. Select all of the solutions to $x^2 = 16$.

(a)
$$x = 4$$

(d)
$$x = -8$$

(b)
$$x = -4$$

(e)
$$x = 16$$

(c)
$$x = 8$$

(f)
$$x = -16$$

2. Find the value of each variable that makes the equation true.

(a)
$$5^2 \cdot 5^3 = 5^a$$

(d)
$$(4^3)^5 = 4^d$$

(b)
$$\frac{3^7}{3^6} = 3^b$$

(e)
$$2^e = \frac{1}{2}$$

(c)
$$7^c = 1$$

(f)
$$3^4 \cdot f^4 = 15^4$$

3. Evaluate each expression.

(a)
$$\frac{1}{4} \cdot 24$$

(c)
$$\frac{3}{5} \cdot 8 \cdot \frac{5}{3}$$

(b)
$$\frac{3}{2} \cdot 10$$

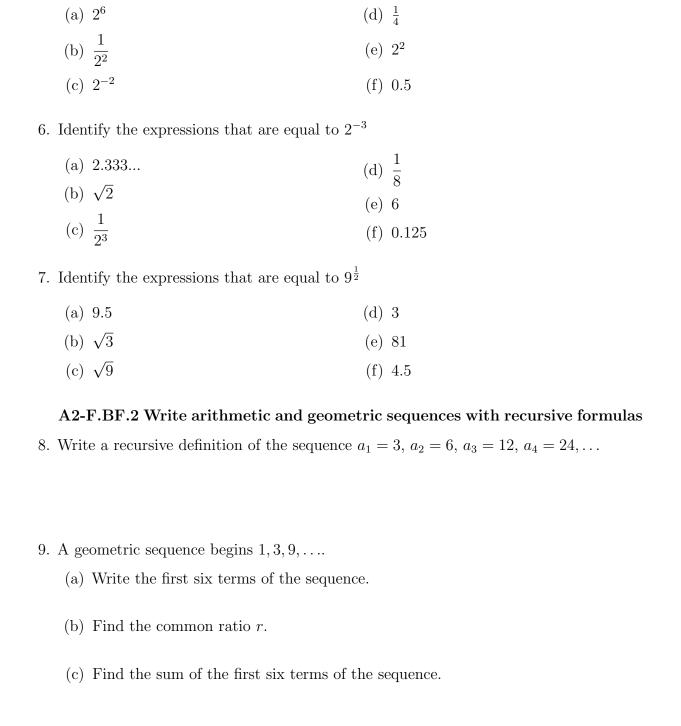
$$(d) \ \frac{2}{3} \cdot \frac{5}{2} \cdot 9$$

4. p = 3x + 1 and q = 2x - 5.

For each expression, write an equivalent expression in standard form.

(a)
$$p+q$$

(b)
$$p-q$$



(d) Find the sum of the first 20 terms of the sequence.

5. Identify the expressions that are equal to $\frac{2^2}{2^4}$

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

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

- 11. 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.

