

Name: _____

1. Simplify each of the following expressions. If the answer is a fraction, reduce it to lowest terms.

(a)
$$\frac{\frac{1}{2}}{\frac{5}{6} - \frac{1}{4}}$$

(b) $| -2 - 7 | - | 3 - 9 |$

2. Consider the following sets:

$$A = \{x \mid -1 \leq x \leq 11\}$$

$$B = \{x \mid x > 3\}$$

- (a) Sketch the graph of the intersection of A and B .
- (b) Write in interval notation $A \cup B$.
3. (a) Write .00000345 in scientific notation. _____
- (b) Write 8.65×10^{-4} in decimal notation. _____

4. Simplify the following:

(a) -4^2

(b) $(r^2s)^3(3r^3s^2)$

(c) $(16)^{3/2}$

(d) $6^{1/2}(12^{1/2})$

(e) $\frac{\sqrt{24}}{\sqrt{2}}$

5. (a) Simplify the expression $\sqrt[5]{a^3b}\sqrt[5]{a^2b^3}$

(b) Rationalize the denominator $\frac{4}{\sqrt[5]{x^3}}$