

Worksheet for Chapter 1.1 and 1.2

1. List the elements of the given set that are natural numbers, integers, rational numbers, and irrational numbers. (Select all that apply.)

$$\{3, \pi, \sqrt{4}, \sqrt{5}, 3, 3.1, 3.14, 3.14159, 3^{1/2}\}$$

2. State the property of real numbers being used:

a) $(w + 3)x = wx + 3x$

b) $(bc)x = b(cx)$

3. Do the arithmetic and simplify:

a) $\frac{2}{9} + \frac{7}{8} =$

b) $\frac{3}{2} + 4\frac{1}{8} =$

c) $\frac{\frac{5}{7}}{\frac{10}{56}} =$

d) $\frac{\frac{9}{7}}{1 + \frac{2}{5}} =$

4. Simplify: a) $-5^2 =$

b) $\left(\frac{2}{7}\right)^{-2} =$

c) $\sqrt{\frac{9}{8}} =$

d) $(10^4)^9 =$

e) $10^{(4^9)} =$

5. a) $|3-7| =$

b) $|7-3| =$

c) $|7-3| + |3-7| =$

d) $\left| |7-3| - |-3-7| \right| =$

6. Write the set as an interval: $2 < 3x - 1 < 5$

7. Solve for x and write the answer as an interval: $3x - 17 \leq 14x + 3$

8. If the answer to #6 is set A and the answer to #7 is set B then find the sets

a) $A \cup B$

b) $A \cap B$