Algebra I EOC Practice #9

SPI 3102.2.3: Describe and/or order a given set of real numbers including both rational and irrational numbers.

For questions 1 and 2, name the set or sets of numbers to which each real number belongs.

1. $-\sqrt{28}$

   A. irrationals
   B. rationals
   C. naturals, wholes, integers, rationals
   D. integers, rationals

2. $\frac{54}{6}$

   A. irrationals
   B. rationals
   C. naturals, wholes, integers, rationals
   D. integers, rationals

3. Write the following numbers in order from greatest to least.

   $\frac{3}{7}$, $\sqrt{\frac{1}{2}}$, 0.46, $\frac{\sqrt{5}}{6}$

   A. $\frac{3}{7}$, 0.46, $\frac{\sqrt{5}}{6}$, $\sqrt{\frac{1}{2}}$

   B. $\sqrt{\frac{1}{2}}$, $\frac{3}{7}$, 0.46, $\frac{\sqrt{5}}{6}$

   C. $\sqrt{\frac{1}{2}}$, 0.46, $\frac{3}{7}$, $\frac{\sqrt{5}}{6}$

   D. $\sqrt{\frac{1}{2}}$, 0.46, $\frac{\sqrt{5}}{6}$, $\frac{3}{7}$

4. Replace each ● with >,<, or = to make the sentence $\frac{3}{7}$ ● $\frac{3}{\sqrt{7}}$ true.

   A. >
   B. <
   C. =
   D. ~

5. Which statement best describes the values of the numbers in this set?

   $\left\{\sqrt{\frac{36}{5}}, \sqrt{\frac{49}{8}}, \sqrt{\frac{81}{11}}\right\}$

   A. They are less than 1.
   B. They are between 1 and 2.
   C. They are between 2 and 3.
   D. They are between 3 and 4.5.

For questions 5 and 6, write each set of numbers in order from least to greatest.

6. $\sqrt{0.24}$, 0.18, $0.\overline{18}$, $\frac{\sqrt{4}}{5}$

   A. $\sqrt{0.24}$, 0.18, $0.\overline{18}$, $\frac{\sqrt{4}}{5}$

   B. 0.18, $0.\overline{18}$, $\frac{\sqrt{4}}{5}$, $\sqrt{0.24}$

   C. $\frac{\sqrt{4}}{5}$, $\sqrt{0.24}$, 0.18, $0.\overline{18}$

   D. $\sqrt{0.24}$, $0.\overline{18}$, 0.18, $\frac{\sqrt{4}}{5}$

7. $\sqrt{136}$, $9\frac{5}{8}$, $\sqrt{108}$

   A. $9\frac{5}{8}$, $\sqrt{108}$, $\sqrt{136}$

   B. $\sqrt{136}$, $9\frac{5}{8}$, $\sqrt{108}$

   C. $\sqrt{108}$, $9\frac{5}{8}$, $\sqrt{136}$

   D. $\sqrt{136}$, $\sqrt{108}$, $9\frac{5}{8}$