1. Which of the following expressions are greater than 7 and less than 14? Select three that apply.

      A. $\sqrt{44}$

      B. $\sqrt{53}$

      C. $\sqrt{97}$

      D. $\sqrt{159}$

2. Which of the following numbers are rational? Select two that apply.

      A. $\sqrt{7}$

      B. $\sqrt{36}$

      C. $\sqrt{64}$

3. Which of the following are rational numbers? Select three that apply.

      A. $\sqrt{1}$
      B. $\sqrt{2}$
      C. $\sqrt{3}$
      D. $\sqrt{4}$
      E. $\sqrt{6}$
      F. $\sqrt{8}$
      G. $\sqrt{9}$

4. Which of the following expressions are equivalent to $x^{4/5}$? Select three that apply.

      A. $\sqrt[4]{x^5}$

      B. $\left(x^4\right)^{1/5}$

      C. $\left(x^5\right)^{1/4}$

      D. $\left(\sqrt[4]{x}\right)^5$

      E. $\left(\sqrt[5]{x}\right)^4$

5. Which of the following equations are true? Select three that apply.

A. $\sqrt{64} = 2^{\frac{6}{2}}$

B. $4^{\frac{3}{2}} = 2^3$

C. $\left(\sqrt[3]{216}\right)^4 = 36^2$

D. $8^{\frac{1}{2}} = \sqrt{16}$

E. $\left(\sqrt{36}\right)^{\frac{1}{2}} = 18^{\frac{1}{4}}$

6. Which of the following decimals is equal to $3\frac{1}{40}$? Select two that apply

    A. 3.0025
    B. 3.025
    C. 3.0025
    D. 3.025
    E. 3.00250
    F. 3.0250

7. Write a fraction equivalent to $0.\overline{1}$ Use only whole numbers for the numerator and denominator.

8. $\sqrt{2}$ is considered an irrational number. What makes this number irrational? Explain your reasoning.

9. Does the number 30 have a decimal expansion?

10. Maura claims that when the fourth root of 16 is expressed in the form 16^k, the value of k is $\frac{1}{2}$ since $2^4 = 16$. Decide if Maura is correct. If she is correct, enter $\frac{1}{2}$ below. If she is incorrect, enter the correct value of k.   k=

11. Maria think that for any positive integer, x, and any positive integer, m, $x^{1/4} = \sqrt[m]{x}$. She decides to test her thinking with a set of examples. Complete the table below to determine the simplified value of each expression.

Expression	Value
$9^{\frac{1}{2}}$	
$\sqrt[2]{9}$	
$64^{\frac{1}{3}}$	
$\sqrt[3]{64}$	
$16^{\frac{1}{4}}$	
$\sqrt[4]{16}$	

12. Is $\sqrt{13}$ located between points M and N on the number line below?

A. No, because it is not greater than 3 and less than 4.
B. No, because it is not greater than 9 and less than 16.
C. Yes, because it is greater than 3 and less than 4.
D. Yes, because it is greater than 9 and less than 16

13. Which of the following is equivalent to: $6^{1/3}$

A. $\frac{1}{27}$

B. 1

C. $\sqrt[3]{6}$

D. $\log 3$