Level 4: Irrational Numbers and Integer Exponents Mid-Test

Question 1:

Which of the following is irrational?

a. .777...

b. $1.6\overline{6}$

c. $\sqrt{3}$

d. $\frac{5}{6}$

Question 2:

What is the value of $\frac{7}{8}$ as a decimal?

Question 3:

Write $\sqrt{7}$ as a decimal rounded to nearest thousandth.

Question 4:

Which of the following is a rational number?

a. $\sqrt{19}$

b. $\sqrt{69}$

c. $\sqrt{169}$

d. $\sqrt{8}$

Question 5:

Write $0.\overline{7}$ as the ratio of two integers.

Question 6:

Write $3\frac{5}{9}$ as a decimal rounded to the nearest thousandth.

Question 7:

What is the greatest integer that is a solution to the following inequality?

$\sqrt{x} < 6$

Question 8:

Susan designs a rectangular tote bag to carry a tablet computer. Using the dimensions of the bag, she calculates the tote bag's diagonal to be $10 \times \sqrt{2}$ inches.

Of the measurements of computer diagonals listed below, which is the largest she can put in her bag?

a. 10 in

b. 15 in

c. 20 in

d. 25 in

Question 9:

Use the fractional approximation to write π^3 as a power of the ratio of two integers.

(Use the / key or the $\frac{x}{\square}$ option to create a fraction. Use the $x^{\square}$ option to create an exponent.)

Question 10:

Estimate the value of $\sqrt{5} + \sqrt{7}$, rounded to the nearest thousandth.

Question 11:

Arrange the following numbers in order from least to greatest.

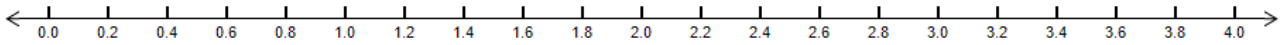
– π^2

– $\sqrt{9}$

– 3.1^2

Question 12:

Which point approximately represents $\sqrt{13}$? Circle the number on the number line to show your answer.



Question 13:

Which of the following **best** describes an irrational number?

a. a number that is a square root

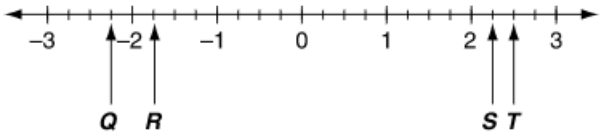
b. a number that is less than zero

c. a number that cannot be approximated by a decimal

d. a number that cannot be written as the ratio of two integers

Question 14:

Look at the number line below.



Which point best represents the location of $-\sqrt{5}$ on the number line?

a. point Q

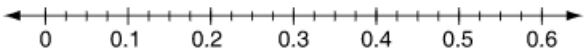
b. point R

c. point S

d. point T

Question 15:

Look at the number line below.



Which number is located between 0.3 and 0.4 on the number line?

a. $\sqrt{0.06}$

b. $\sqrt{0.12}$

c. $\sqrt{0.25}$

d. $\sqrt{0.35}$

Question 16:

Write $1.\overline{6}$ as the quotient of two integers or as a mixed number.

Question 17:

Write the number 0.777... as the quotient of two integers.

Question 18:

Between what two consecutive integers is the value of $\sqrt{22}$?

between _____ and _____