Quiz 1   (15)   *Pi - What is it?*

Name: _____

1. The formula for the area of a circle is $A = \pi r^2$ and the formula for the circumference of a circle is $C = 2\pi r$, where r is the radius of the circle. Write and simplify the ratio $\frac{A}{C}$.

$$\frac{A}{C} = \frac{\pi r^2}{2\pi r}$$

   ✗

1. Incorrect response:
The student was not only asked to write the ratio in terms of r and the constant pi, but the student was also asked to simplify the expression.

2. What is number π approximately equal to? How many digits does number π have?

3.14

It has 3 digits

   ✗

2. Incorrect response:
The student stated a finite number for the amount of digits in the constant pi, which is actually an irrational number.

3. A. What is an irrational number?

A number that can't be written as a fraction

   ✓

3. Correct response:
The student correctly described an irrational number.

B. Which number below is irrational?

   i) 0   (ii) π)   iii) $\sqrt{9}$ iv) $-\frac{1}{3}$

   ✓

3B. Correct response:
The student correctly circled the constant pi, which is an irrational number.

4. The radius of a circular pizza pie is 6 inches. Find the area of the pizza. What are the units of area?

$A = \pi r^2$

$= \pi 6^2$

$= \pi 36$
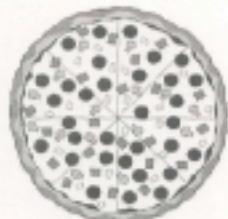
$A = 103.04$

$$\begin{array}{r} 3.14 \\ \times\ 36 \\ \hline 18\ 84 \\ +\ 94\ 2 \\ \hline 103.04 \end{array}$$

   ✓

4. Correct response:
The student correctly writes the response in terms of the constant pi, as well as a good approximate response.

5. What gets you excited about math?

— When we do adding or subtracting.

6. If you were given the chance to create this lesson which method would you use:

   A. LECTURE

   B. READ TEXTBOOK

   C. WATCH MOVIE

   (D.) CONDUCT HANDS - ON ACTIVITY

   E. RESEARCH ON THE INTERNET

7. Do you think robotics can be helpful when used to collect data in math experiments?

   (A.) YES   B. NO   C. UNSURE

More questions on the next page->

Quiz 2 · *Means, modes and medians*

Name: _____

1. What is the area of the moon's cross-section if its radius is 1738 km? What are the units of area?

$a = \pi r^2$

$\begin{array}{r} 1738 \\ \times\ 2 \\ \hline 3476 \end{array}$

$A = \pi\, 3476$

$a = 10914.64$
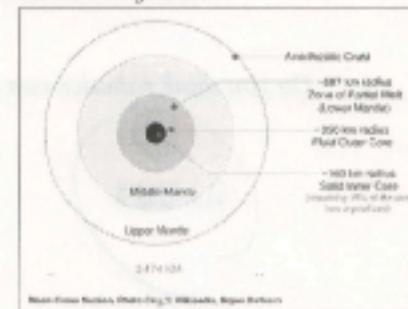
1. Correct response:
The student correctly gave both an answer in terms of pi, as well as a good approximate answer.

2. Number π is approximately equal to 3.14. Are there any other digits that follow after the number 4 in 3.14?

How many digits make up the number π?

yes; there is more then a million #'s

2. Incorrect response:
Although the student's statement is logically correct, the student mentioned a finite number, and did not allude to irrationality of number or infinite digits, etc.

3. The formula for the area of a circle is $A = \frac{\pi d^2}{4}$ and the formula for the circumference of a circle is

$C = \pi d$, where d is the diameter of the circle. Write and simplify the ratio $\frac{C}{A}$. Show work to get credit.

$\frac{C}{A} = \frac{2\pi d}{\pi d^2 r} = \frac{2}{r}$

3. Correct response:
The student correctly wrote and simplified the expression, leaving it in terms of the radius r.

4. A. Choose which number is irrational?

   i) π ii) $\sqrt{121}$ iii) $\frac{5}{4}$ iv) -0.3
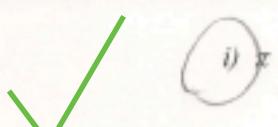
4. Correct response:
The student circled the correct irrational number, which is the constant pi in this case.

B. Describe an irrational number.

a number that can't be written as a fraction

4B. Correct response:
The student correctly stated one definition of an irrational number.

5. What did you LIKE or DISLIKE about the lesson?

It was confus

6. Do you think robotics can be helpful when used to collect data in math experiments?
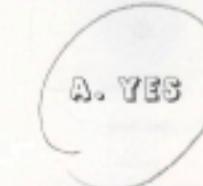
A. YES   B. NO   C. UNSURE

7. What did you LIKE or DISLIKE about the robotic device?

Its hard to program w/ the #'s.

8. Do you think the use robotics to collect data:
A. MADE THE LESSON EASIER
B. MADE THE LESSON HARDER
C. MADE NO DIFFERENCE IN THE LESSON
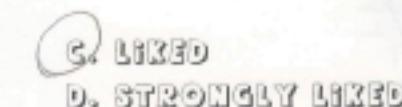
9. Rate this lesson using the following
A. STRONGLY DISLIKED   C. LIKED
B. DISLIKED   D. STRONGLY LIKED

10. What gets you excited about math?

Adding

11. If you were given the chance to create this lesson which method would you use:
A. RESEARCH ON THE INTERNET   D. CONDUCT HANDS-ON ACTIVITY
B. LECTURE   E. WATCH A MOVIE
C. READ TEXTBOOK

More questions on the next page->