

Name: _____

Date: _____

#12

Rational & Irrational Numbers Practice

Classify each number as rational (R) or irrational (I).

1. π

2. $\frac{\sqrt{8}}{\sqrt{2}}$

3. $\sqrt{9}$

4. $\frac{2}{3}$

Classify each number as rational (R) or irrational (I). Then, explain using a COMPLETE SENTENCE why you have classified the number the way you have.

5. $0.\overline{123}$ _____ ; _____

6. $4.125\dots$ _____ ; _____

Read each statement below. Both statements are incorrect. Correct the statement using a COMPLETE SENTENCE.

7. Hayden said that $\frac{\sqrt{3}}{8}$ is a rational number because it can be written as a fraction.

8. Jessie said that $0.\overline{286}$ is an irrational number because that decimal will carry on forever.

Label each number in the equation rational (R) or irrational (I). Determine whether the sum or product will be rational or irrational.

9. $10 + \frac{1}{10} =$ _____

10. $\sqrt{17} \times 5 =$ _____

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Instructions: Label each number in the equation rational (R) or irrational (I). Determine whether the sum or product will be rational or irrational. (You are not finding the answer! Just tell whether the answer would be rational or irrational.)

11. $\sqrt{225} \times \sqrt{625} =$ _____

12. $\sqrt{25} + \sqrt{9} =$ _____

13. $\frac{7}{8} \times \sqrt{20} =$ _____

14. $36.8 \times \sqrt{64} =$

15. $1.2 + 7.8\bar{5} =$ _____

16. $\frac{\sqrt{7}}{3} + 8 =$ _____

17. $\sqrt{11} + 1.9 =$ _____

18. $17 + 2 =$ _____

19. Explain using words why the product of $0.\overline{123}$ and π is irrational.

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Rational & Irrational Numbers Practice

Classify each number as rational (R) or irrational (I).

1. π

I

2. $\frac{\sqrt{8}}{\sqrt{2}}$

R

3. $\sqrt{9}$

R

4. $\frac{2}{3}$

R

Classify each number as rational (R) or irrational (I). Then, explain using a COMPLETE SENTENCE why you have classified the number the way you have.

5. $0.\overline{123}$ rational ; it is a repeating decimal

6. $4.125\dots$ can't tell ; not enough info!

Read each statement below. Both statements are incorrect. Correct the statement using a COMPLETE SENTENCE.

7. Hayden said that $\frac{\sqrt{3}}{8}$ is a rational number because it can be written as a fraction.

$\frac{\sqrt{3}}{8}$ is irrational because its decimal form does not repeat or terminate.

8. Jessie said that $0.\overline{286}$ is an irrational number because that decimal will carry on forever.

$0.\overline{286}$ is rational because it is ~~is~~ a repeating decimal

Label each number in the equation rational (R) or irrational (I). Determine whether the sum or product will be rational or irrational.

$$\boxed{R} \quad \boxed{R}$$

9. $10 + \frac{1}{10} =$ R

$$\boxed{I} \quad \boxed{R}$$

10. $\sqrt{17} \times 5 =$ I

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Instructions: Label each number in the equation rational (R) or irrational (I). Determine whether the sum or product will be rational or irrational. (You are not finding the answer! Just tell whether the answer would be rational or irrational.)

R R

11. $\sqrt{225} \times \sqrt{625} =$ R

R R

12. $\sqrt{25} + \sqrt{9} =$ R

R I

13. $\frac{7}{8} \times \sqrt{20} =$ I

R R

14. $36.8 \times \sqrt{64} =$ R

R R

15. $1.2 + 7.8\bar{5} =$ R

I R

16. $\frac{\sqrt{7}}{3} + 8 =$ I

I R

17. $\sqrt{11} + 1.9 =$ I

R R

18. $17 + 2 =$ R

19. Explain using words why the product of $0.\overline{123}$ and π is irrational.

$0.\overline{123}$ is rational and π is irrational... the product of a rational and irrational number is irrational