**Name:**

***Study Guide 1573 ~*** *Pies Are Square*

Formula for the area of a circle

Ok. Most pies are not square.

But we’ve learned that we can find the area of a circle by using the formula πr2. (Pronounced “pi” “r” “squared”.)

|  |  |  |
| --- | --- | --- |
| 1) The radius of this circle is | 2) Here is a square where each side is  | 3) The area of the square is  |
| 4) We can fully cover the circle if we lay out \_\_\_\_\_ of these squares | 5) But four squares is a little bit too much. There’s some extra area \_\_\_\_\_\_\_\_\_\_ of the circle | 6) The accurate area of the circle is really close to three of those squares. It’s actually 3.14 of those  |
| 7) The number 3.14 is known as \_\_\_\_\_ | 8) So we find the area of the square, and then \_\_\_\_\_\_\_\_\_\_\_\_\_ it by π | 9) In this example, the circle is π x 9 u2.This is about \_\_\_\_ x 9 u2. |
| 10) If we calculate this, we get about \_\_\_\_\_\_ u2. | 11) When we say that the area of the circle is 28.26 u2. We mean that it would take a little bit more than \_\_\_\_\_\_ small squares to fill up the full circle. | 12) Of course, the squares \_\_\_\_\_ fit perfectly. You need to break some of them into pieces to fit the pieces around the edge of the circle.  |

13) Check your answers to above section in the box below.

1) 3 units 2) the radius of the circle 3) 9 square units

4) four 5) outside 6) those squares

7) pi or π 8) multiply 9) 3.14

10) 28.26 11) 28 12) don’t

**Practice**

14) Refer to Circle B. Draw a square where the sides are the radius of the circle. What is the area of the square?

15) Find the circle’s area by multiplying the square by 3.14.



16) Refer to Circle C. Draw a square where the sides are the radius of the circle. What is the area of the square?

17) What is the area of the circle?

18) Refer to Circle D. Draw a square where the sides are the radius of the circle. What is the area of the square?

19) What is the area of the circle?



20) Refer to circle E. This time you don’t have a grid. What is the area of the square?

21) What is the area of the circle?

22) With Circle F, we’re no longer drawing the square for you. (But you can draw your own if you feel like that helps.) What is the area of the circle?

For questions 23 through 29, find the area of the circle

25)

24)

23)





26)

27)

28)

**Answers**

14) 25 u2

15) 78.5 u2

16) 4 u2

17) 12.56 u2

18) 6.25 u2

19) 19.625 u2

20) 49 u2

21) 153.86 cm2

22) 200.96 cm2

23) 530.66 cm2

24) 1,256 cm2

25) 31,400 cm2

26) 346.185 cm2

27) $\frac{1}{4} π m^{2}, or about 0.785 m^{2} $

28) 452.16 cm2