

SAMPLE PROBLEM OF THE WEEK

I want to bake blackberry cobbler. The recipe calls for a 9" pie pan. All I have are rectangular baking dishes. Help me decide which one to use!

What I really care about is the top of the cobbler. I want it to have about the same area as the 9" pie pan so that the topping fits correctly.

Here are the dimensions of the baking dishes I have:

Pan A: 3" (depth) x $9\frac{3}{4}$ " (length) x $7\frac{3}{4}$ " (width)

Pan B: $1\frac{3}{4}$ " (depth) x $7\frac{1}{2}$ " (length) x $5\frac{1}{2}$ " (width)

Pan C: $2\frac{1}{2}$ " (depth) x $8\frac{1}{2}$ " (length) x $7\frac{1}{2}$ " (width)

Which one should I use?

Problem Statement

I have a recipe that calls for a 9 inch pie pan. All I have are rectangular baking dishes. Pan A is $9\frac{3}{4}$ inches long and $7\frac{3}{4}$ inches wide. Pan B is $7\frac{1}{2}$ inches long and $5\frac{1}{2}$ inches wide and Pan C is $8\frac{1}{2}$ inches long and $7\frac{1}{2}$ inches wide. Which pan should I use if I want the cobbler to have about the same area as the 9 inch pie pan?

Work

First I found the area of the circular pan. I used the formula for the area of a circle, $A = \pi r^2$. I used 3.14 as an approximation for π .

$$d = 9 \text{ inches, } r = (\frac{1}{2})(9)$$

$$= 4.5 \text{ in}$$

$$A = \pi r^2$$

$$A = (3.14)(4.5)^2$$

$$A = 63.585 \text{ in}^2$$

Next I found the area of the three rectangular pans. I had to multiply each pans length and width.

Pan A: $9\frac{3}{4}$ in long and $7\frac{3}{4}$ in wide

$$A = lw$$

$$A = (9.75)(7.75)$$

$$A = 75.5625 \text{ in}^2$$

Pan B: $7\frac{1}{2}$ in long and $5\frac{1}{2}$ in wide

$$A = lw$$

$$A = (7.5)(5.5)$$

$$A = 41.25 \text{ in}^2$$

Pan C: $8\frac{1}{2}$ in long and $7\frac{1}{2}$ in wide

$$A = lw$$

$$A = (8.5)(7.5)$$

$$A = 63.75 \text{ in}^2$$

Since the circular pan's area was 63.585 square inches, pan C has the closest area with 63.75 square inches.

Answer

The answer to this POW is pan C with an area of 63.75 square inches. I received help from my sister. She reminded me that area is measured in square units and that I need the radius of a circle when finding area.