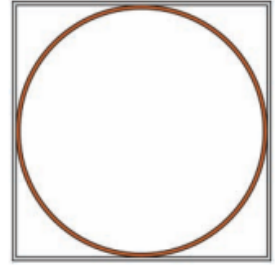


An artist used silver wire to make a square that has a perimeter of 40 inches. She then used copper wire to make the largest circle that could fit in the square, as shown below.



How many more inches of silver wire did the artist use compared to copper wire? (Use $\pi = 3.14$) Show all work necessary to justify your response.

Card 1 (7.G.4)

Look at each expression. Is it equivalent to $36x + 24y$? Select yes or no for expressions A-C.

A. $6(6x + 4y)$ ☐ Yes ☐ No

B. $30(6x - 6y)$ ☐ Yes ☐ No

C. $12(x + 2y + 2x)$ ☐ Yes ☐ No

(6.EE.4 - In grade 6 students generate equivalent algebraic expressions, in grade 7 these are expanded to include expressions with rational coefficients, and in grade 8 students use earlier strategies to solve increasingly complex equations.)

Card 3

What are two different equations with the same solution as $3(y - 1) = 8$?

Card 5

A student performs the following:

$$\frac{x + 3}{2x + 6} = 1$$

$$x + 3 = 2x + 6$$

$$x = -3$$

Is the solution correct? If yes, explain why. If no, explain what was wrong with the student's reasoning?

Card 7

How many integers are greater than $\sqrt{68}$ and less than $\sqrt{169}$?

Card 9

For each linear equation in the table, select whether the equation has no solution, one solution, or infinitely many solutions.

Card 2 (8.EE.7a)

| Equation | No Solution | One Solution | Infinitely Many Solutions |
|-----------------------------|-------------|--------------|---------------------------|
| $36x + 24 = 12(x + 2 + 2x)$ | | | |
| $x = x + 1$ | | | |
| $-12(x + 2) = -14x + 2$ | | | |

Solve. $\frac{3}{4}c(c - 1) = c$

Card 4

Solve. $(x + 2)(4x - 1) = 2x(5x - 2) - 12$

Card 6

A right circular cone is shown in the figure. Point A is the vertex of the cone and point B lies on the circumference of the base of the cone. The cone has a height of 24 units and a diameter of 20 units. What is the distance from point A to point B?



Card 8 (8.G.7)

A restaurant serves a vegetarian and a chicken lunch special each day. Each vegetarian special is the same price. Each chicken special is the same price. However, the price of the vegetarian special is different from the price of the chicken special.

- On Thursday, the restaurant collected \$467 selling 21 vegetarian specials and 40 chicken specials.
- On Friday, the restaurant collected \$484 selling 28 vegetarian specials and 36 chicken specials.

What is the cost of each lunch special?

Card 10 (A-REI.6)

Procedural/Skill Cards: 2,4,6, 8

Conceptual Understanding Cards: 3,5,7,9

Application Cards: 1,10