Select **all** angle measures that are possible values for $\angle A$.

- [ ] ~~25°~~
- [ ] ~~35°~~
- [ ] ~~45°~~
- [x] 55°
- [x] 65°
- [x] 75°

---

**6.** Select **all** equations that have at least one integer solution.

- [ ] ~~$(\sqrt{4x})^2 = (5)^2$~~   $4x = 25$   x is not an integer for this equation
- [x] $(\sqrt{3x})^2 = (75)^2$ → $3x = 75^2$ → $x = 1875$
- [ ] ~~$(\sqrt[?]{x})^2 = \left(\frac{\sqrt{16}}{8}\right)^2$~~   $x = \frac{16}{64}$   x is not an integer for this equation
- [x] $(\sqrt{x})^2 = (x-12)^2$ → $x = x^2 - 24x + 144$
  $0 = x^2 - 25x + 144 =$
  $(x-9)(x-16)$
  $x = 9, 16$
  $-9 \quad 144 \quad -16$
  $-25$
- [ ] ~~$\sqrt{10-x} = x - 2$~~   x is not an integer for this equation

---

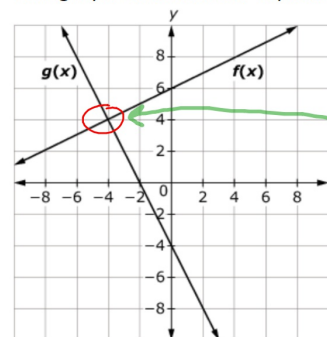**7.** Enter the value of $x$ such that $3^{\frac{4}{5}} \cdot 3^{\frac{3}{x}} = \sqrt[5]{3^7}$ is true.

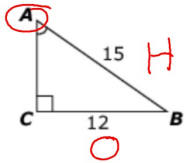$3^{\frac{4}{5} + \frac{3}{x}} = 3^{\frac{7}{5}}$

$x = 5$

---

**9.** This graph shows linear equations $y = f(x)$ and $y = g(x)$.



Enter the solution to the equation $f(x) - g(x) = 0$.

$x = -4$

This occurs where the graphs are "equal"

**10.** Consider this right triangle.



SOHCAHTOA

Enter the measure of ∠CAB to the nearest hundredth degree.

$$\sin A = \frac{12}{15}$$

$$A = \sin^{-1}\left(\frac{12}{15}\right)$$

$$53.13°$$

---

**Part A**

Enter an equation that could be used to help determine the width, $w$, of the walkway in the first response box.

**Part B**

Determine the width, in meters, of the walkway. Enter your answer in the second response box.

| |
|---|
| $4w^2 + 60w - 175 = 0$ |

| |
|---|
| $w = 2.5$ |

---

**11.** A rectangular garden measures 13 meters by 17 meters and has a cement walkway around its perimeter, as shown. The width of the walkway remains constant on all four sides. The garden and walkway have a combined area of 396 square meters.
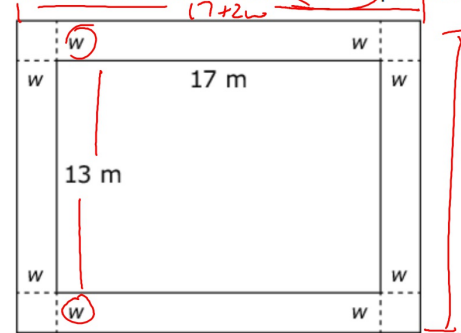


$$L \times W = 396$$

$$(13 + 2w)(17 + 2w) = 396$$

$$4w^2 + 60w + 221 = 396$$

$$4w^2 + 60w - 175 = 0$$

$$(2w + 35)(2w - 5) = 0$$

$$w = \frac{-35}{2}, \frac{5}{2}$$

| | $4w^2$ | $+70w$ |
|---|---|---|
| | $-10w$ | $-175$ |

---

**13.** The height of a plant in centimeters is modeled as a function of time in days. Consider this graph of the function.

Slope

Enter the average rate of change for the height of the plant, measured in centimeters per day, between day 0 and day 20.

$$\frac{22}{20} = 1.1$$



Plant Height