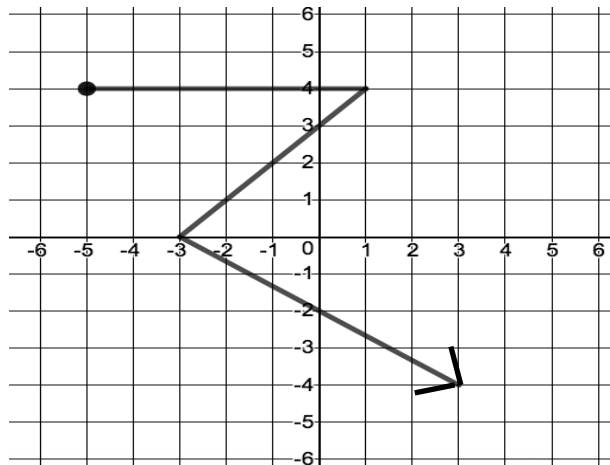


1. Is this a function?    YES    NO

a. Domain: \_\_\_\_\_

b. Range: \_\_\_\_\_

c. Sketch the inverse.



2. The value of your car goes down every year. If you bought your car for \$21,199 in 2009 and it depreciates 8.7% every year, when will it be worth \$10,500?

Given

$$f(x) = 5x + 2$$

$$g(x) = (x + 2)^2 - 5$$

$$h(x) = \frac{x-2}{5}$$

3. Find  $g^{-1}(x)$

4. Find  $g(h(-18))$

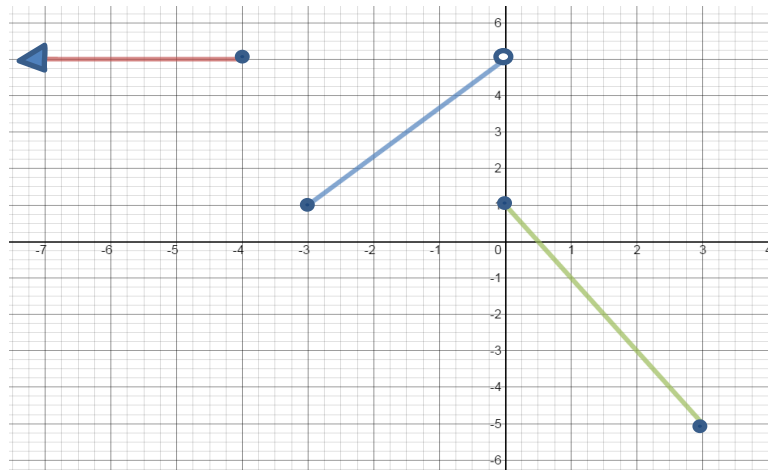
5. Show that  $f(x)$  and  $h(x)$  are inverses by using compositions.

6. Graph the equation.

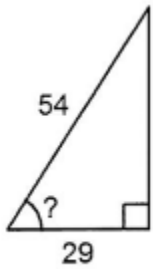
$$y = 5 \cos \frac{1}{2} \left( x + \frac{\pi}{2} \right) - 4$$

7. Given the piecewise function  $f(x)$ :

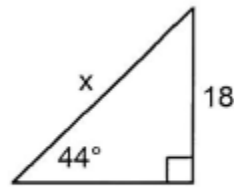
- a.  $f(0) =$
- b.  $f(2) =$
- c.  $f(4) =$
- d.  $f(-9) =$
- e. Domain =
- f. Range =



8. Find the missing angle.



9. Find the missing side.



10. Find all solutions for the equation within the interval  $0^\circ \leq \theta < 360^\circ$

a.  $\sqrt{2}\sin\theta + 1 = 0$

b.  $\tan\theta\cos\theta + \cos\theta = 0$

11. Simplify.

$$\frac{\csc^2 \theta - 1}{\csc^2 \theta}$$