

Quiz 2, 6/23/25

1) Draw a function that has all of these properties:

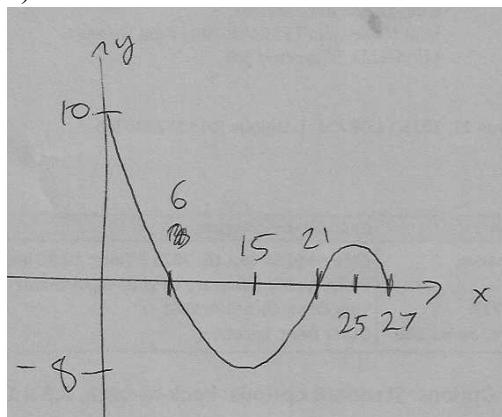
- \* It is decreasing on  $(0, 15)$  and  $(25, 27)$ .
- \* It is increasing on  $(15, 25)$ .
- \* It is positive on  $(0, 6)$  and  $(21, 27)$ .
- \* It is negative on  $(6, 21)$ .
- \* The range is  $[-8, 10]$ .

2) Write as a composition of two functions:

$$h(x) = \sqrt{x^2 + 16}$$

Ans:

1)



$$\begin{aligned} 2) f(x) &= \sqrt{x} \\ g(x) &= x^2 + 16 \\ h(x) &= f(g(x)) \end{aligned}$$