

PIECEWISE FUNCTION BACKWARDS

STEP:

Replace y to find x :

-You need to choose the right function by looking at the constraint of x 's

Ex: A few people want to pave their driveway. The cost of paving depends on the area that needs to be covered. The function $f(x)$ describes the cost of paving (\$) according to the area x (m^2).

$$f(x) = \begin{cases} 20x & 0 \leq x < 25 \\ 22x & 25 \leq x < 35 \\ 750 & 35 \leq x < 60 \end{cases}$$

$[0, 25[$ $[0, 500[$
 $[25, 35[$ $[550, 770[$
 $[35, 60[$ 750

Question 1: If Richard's driveway is $25 m^2$, how much will he have to pay to have it paved?

$$f(25) = 22(25) = 550 \$$$

Question 2: If Marla's driveway is $24 m^2$, how much will she have to pay to have it paved?

$$f(24) = 20(24) = \$480$$

Question 3: If Jimmy's driveway is $34 m^2$, how much will he have to pay to have it paved?

$$f(34) = 22(34) = 748 \$$$

Question 4: If Jennifer's driveway is $35 m^2$, how much will she have to pay to have it paved?

$$f(35) = 750 \$$$

Q5. If a driveway costs \$460 to pave, how many m^2 is it?

$$\frac{460}{20} = \frac{20x}{20}$$

$$x = 23 m^2$$

Q6: If a driveway costs \$682 to pave, how many m^2 is it?

$$\frac{682}{22} = \frac{22x}{22}$$

$$x = 31 m^2$$