Pre Calc Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 WS Assessment

Target 6

Inverse and

inverse function

* Function Inverses
* Finding Function Inverses

HW 6 Inverse Function [www.deltamath.com](http://www.deltamath.com)

Inverse variation

If p and q vary inversely and p is 30 when q is 17, determine q when p is equal to 10.

If p is inversely proportional to the square of q, and p is 14 when q is 8, determine p when q is equal to 2.

If p is inversely proportional to the square of q, and p is 18 when q is 10, determine p when q is equal to 3.

When renting a limo for prom, the number of people varies inversely with the cost per person. Originally there were 6 people and the cost per person was $34. If the number of people changed to 11, what would be the new cost per person?

When building a house, the number of days required to build varies inversely with the number of workers. One house was built in 45 days by 8 workers. How many days would it take to build a similar house with 18 workers?

Given a rectangle with length is 6 and width is 27. Calculate the width of a rectangle if its length increase to 54 in a way such that the area is remain unchanged.

Find the inverse of the following function

$f\left(x\right)=\sqrt{x}+7$ $f\left(x\right)=x^{7}+2$ $f\left(x\right)=10\sqrt[4]{x}$

$f\left(x\right)=(x+9)^{5}$ $f\left(x\right)=(x+4)^{\frac{1}{4}}$ $f\left(x\right)=\sqrt[5]{x+3}$

$f\left(x\right)=(x^{5}+9)^{\frac{1}{3}}$ $f\left(x\right)=6(x^{7}-4)$ $f\left(x\right)=\frac{(x-4)^{7}}{3}$

$f\left(x\right)=\frac{\sqrt{x}-3}{7}$ $f\left(x\right)=10(\frac{x^{\frac{1}{3}}}{7}-2)$ $f\left(x\right)=(\frac{\sqrt[4]{x}-4}{2})^{5}$

$f\left(x\right)=e^{\frac{x^{\frac{1}{3}}}{9}}$ $f\left(x\right)=\sqrt{\frac{7^{x}+6}{7}}$ $f\left(x\right)=e^{x^{3}-7}$

$f\left(x\right)=e^{9(x-5)}$ $f\left(x\right)=(5\sqrt[5]{x})^{7}$ $f\left(x\right)=\frac{(x^{5})^{\frac{1}{2}}-5}{4}$

$f\left(x\right)=\frac{8}{3x+1}$ $f\left(x\right)=\frac{4x}{4x-5}$ $f\left(x\right)=\frac{3x-5}{2x}$

$f\left(x\right)=\frac{3x+8}{4x+5}$ $f\left(x\right)=\frac{ax+b}{cx-d}$ $f\left(x\right)=(x+2)^{2}-3$

$f\left(x\right)=x^{2}+3x-4$ $f\left(x\right)=2x^{2}+3x-4$

$f\left(x\right)=3x^{2}-5x+8$ $f\left(x\right)=ex^{2}+πx-2$

$$f\left(x\right)=ax^{2}+bx+c$$

Find the value a and b included in the linear function f(x) = a x + b so that

 f-1 (2) = 3 and f-1(-3)= 6, where f-1 (x) is the inverse of function f.

Given f(x) = x3 + 2 x, complete the table of values given below and find f -1(3) and f -1(- 12).

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |
| --- | --- |
| **x** | **f(x)** |
| 0 | ? |
| 1 | ? |
| 2 | ? |

 |  |  |

Let $f\left(x\right)=\frac{1}{x-2}$. Find the points of the intersection of the graphs f(x) and its inverse f-1(x)

Sketch the inverse of y = |x - 2| + 2x and find the formula for its inverse http://www.analyzemath.com/calculus\_questions/analytical/inverse\_functions.html

**Target 6 Assessment**

When building a house, the number of days required to build varies inversely with the number of workers. One house was built in 37 days by 27 workers. How many days would it take to build a similar house with 9 workers?

Find the inverse of the following

f(x) = 35x-1 f(x) = log5 (2x – 1\_

$f\left(x\right)=\frac{3x+4}{7x-2}$ f(x) = 3x2 – 7x + 9

Sketch the inverse of y = |x - 3| + 3x and find the formula for its inverse