Homework Questions 7 – Transformation of Any Graphs

1. The curve with equation y=f(x) passes through the points A(1,2) B(2,10) and C(-4,46). Give the coordinates of A,B&C after the following transformations

a) $f(x - 2)$

> A(3,2) B(4,10) C(-2,46)
>
> (Right 2 so x coordinate +2)

b) $f(x) - 4$

> A(1,-2) B(2,6) C(-4,42)
>
> (Down 4 so y coordinate -4)

c) $3f(x)$

> A(1,6) B(2,30 C(-4,138)
>
> (3 times steeper so y coordinate multiplied by 3)

d) $- f(2x)$

> A(1, -8) B(2, -40) C(-4, -184)
>
> (Turned upside down and 2 times as wide so y coordinate becomes negative and is multiplied by 4)

2. The reciprocal function has the equation $y = \dfrac{4}{x} - 3$ State the equation of the asymptotes

after the following transformations

e) $f(x - 4)$

> $x = 4$ $y = -3$

f) $f(x) + 1$

> $x = 0$ $y = -2$

g) $f(x + 2) - 3$

> $x = -2$ $y = -6$

h) $y = (x - 1) + 7$

> $x = 1$ $y = 4$