Extend 14. Consider the function $f(x) = (x + 4)(x - 3)$. Without graphing, determine the zeros of the function after each transformation. (a) $y = f(x)$ (b) $y = f(-x)$ The zeros of the patent base function are $(x+4)=0 \Rightarrow x_1=-4 \Rightarrow (-4,0)$ $(x-3)=0 \Rightarrow x_2=3 \Rightarrow (3,0)$ a) $y = 4f(x)$ A vertical stretch: $(x,y) \Rightarrow (x,4y)$ has no effect on $y=0$. the zeros stay the same $(-4,0) \Rightarrow (-4,4x0) = (-4,0) \Rightarrow (-4,0) $	<u> </u>	021	a1 4							
14. Consider the function $f(x) = (x + 4)(x - 3)$. Without graphing, determine the zeros of the function after each transformation. (a) $y = 4f(x)$ (b) $y = f(-x)$ (c) $y = f(-x)$ (d) $y = f(-x)$ The zeros of the pagent back function are $(x+4)=0 = 0 = 0 = 0 = 0 = 0 = 0 = 0 = 0 = 0 $	p	, בכש	414							
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		Ь,) y= =	f(-x)	=)	(x,y) -> ((-x,y)		
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which our "zeroes", a.k.a. roots are like
$(-4,0) \rightarrow (-(-4),0) = (4,0)$
$(3,0) \rightarrow (-3,0)$
The new zeros are: (4,0) & (-3,0)
$(c) g = f(\frac{1}{2} \mathcal{H})$
Huis is a Horiz. Stretch by a factor of $\frac{1}{1} = 1 \times \frac{2}{1} = 2$
$\frac{1}{2} = 1 \times \frac{2}{1} = 2$
$f: (x,y) \to (2x,y)$
$(-4,0) \rightarrow (-4\times2,0) = (-8,0)$ $(3,0) \rightarrow (3\times2,0) = (6,0)$
The new zeros are (-8,0) & (6,0).
d) g = f(2x)
this is a Horiz. Stretch by a factor of

