[illegible] Transformations [illegible]

Name: Key

Given $f(x) = 4^x$ find $g(x)$ when the function is....

1) Translated 7 units down

$g(x) = 4^x - 7$

2) Translated 3 units to the right

$g(x) = 4^{(x-3)}$

3) reflected over the x-axis

$g(x) = -(4^x)$

$g(x) = -4^x$

4) reflected over the y-axis

$g(x) = 4^{(-x)}$

5) vertically stretched by 2

$g(x) = 2(4^x)$

6) vertically compressed by $\frac{2}{3}$

$g(x) = \frac{2}{3}(4^x)$

7) horizontally stretched by 3

$g(x) = 4^{(\frac{1}{3}x)}$

8) horizontally compressed by $\frac{1}{5}$

$g(x) = 4^{(5x)}$

Given $f(x) = \log_3 x$ find $g(x)$ when the function is....

1) Translated 3 units down and 7 units right

$g(x) = \log_3(x-7) - 3$

2) Translated 5 units to the left and 5 units up

$g(x) = \log_3(x+5) + 5$

3) reflected over the x-axis

$g(x) = -\log_3 x$

4) reflected over the y-axis

$g(x) = \log_3(-x)$

5) vertically stretched by 4

$g(x) = 4\log_3 x$

6) vertically compressed by $\frac{2}{3}$

$g(x) = \frac{2}{3}\log_3 x$

7) horizontally stretched by 2

$g(x) = \log_3(\frac{1}{2}x)$

8) horizontally compressed by $\frac{1}{3}$

$g(x) = \log_3(3x)$

9) horizontally compressed by $\frac{2}{3}$

$g(x) = \log_3(\frac{3}{2}x)$

10) translated 8 units right and 2 units down

$g(x) = \log_3(x-8) - 2$