Name: _____   Date: _____

Find the transformations:

1. $y = \log_b(x+2)$

2. $y = \log_b(x) + 5$

3. $y = -\log_b(x-1)$

4. $y = \log_b(-x+3)$
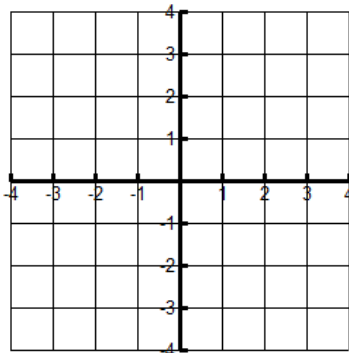
5. $y = -\log_b(x+2) - 7$

6. $y = \log_b(-x) - 4$

Find the asymptotes:

7. $y = \log_b(x+2)$

8. $y = \log_b(x) + 5$

9. $y = -\log_b(x-1)$
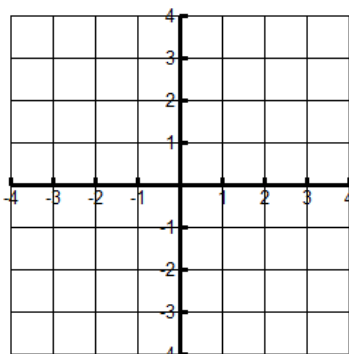
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10. $y = \log_4 x$

State 3 points on Graph_____

Domain_____   Range_____

Asymptote_____   Increasing or Decreasing

X-intercept _____   Y-intercept _____

End Behavior $x \to$ _____,$f(x) \to$ _____
$x \to$ _____,$f(x) \to$ _____

11. $y = \log_{\frac{1}{3}} x$

State 3 points on Graph_____
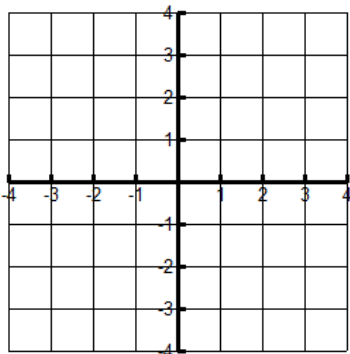
Domain_____   Range_____

Asymptote_____   Increasing or Decreasing

X-intercept _____   Y-intercept _____

End Behavior $x \to$ _____,$f(x) \to$ _____
$x \to$ _____,$f(x) \to$ _____

12. $y = \log_3(x + 2)$

Transformations: _____

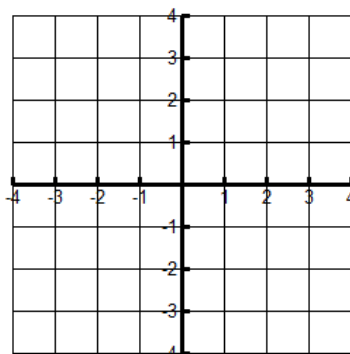State 3 points on Graph_____

Domain_____ Range_____

Asymptote_____   Increasing or Decreasing

X-intercept _____   Y-intercept _____

End Behavior
$$x \rightarrow \text{\_\_\_\_\_}, f(x) \rightarrow \text{\_\_\_\_\_}$$
$$x \rightarrow \text{\_\_\_\_\_}, f(x) \rightarrow \text{\_\_\_\_\_}$$

13. $y = \log_2(x + 3) - 1$

Transformations: _____

State 3 points on Graph_____

Domain_____ Range_____

Asymptote_____   Increasing or Decreasing

X-intercept _____   Y-intercept _____

End Behavior
$$x \rightarrow \text{\_\_\_\_\_}, f(x) \rightarrow \text{\_\_\_\_\_}$$
$$x \rightarrow \text{\_\_\_\_\_}, f(x) \rightarrow \text{\_\_\_\_\_}$$