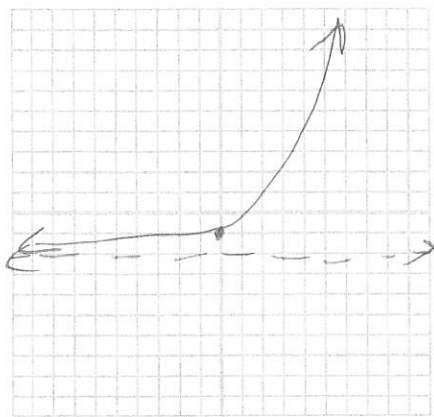


Name KEY

Graph each function and name the domain, range and any asymptote(s).

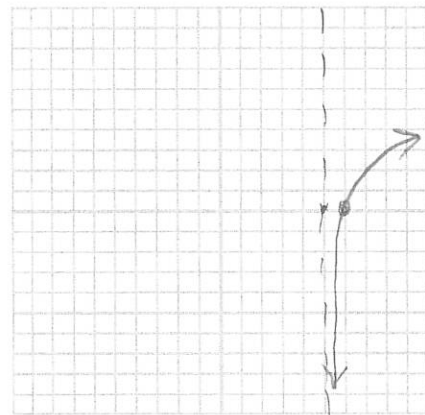
✓ 1. $f(x) = e^x - 2$

Domain:
 $(-\infty, \infty)$
Range:
 $(-2, \infty)$
Asymptotes:
 $y = -2$



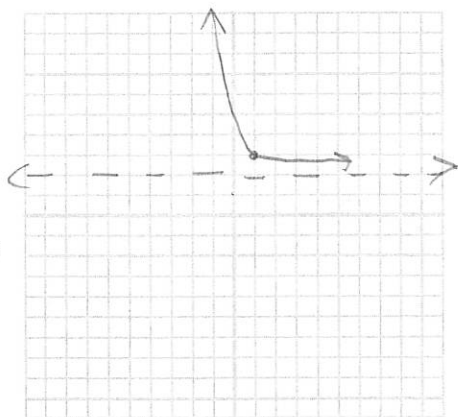
✓ 2. $g(x) = \ln(x - 5)$

Domain:
 $(5, \infty)$
Range:
 $(-\infty, \infty)$
Asymptotes:
 $x = 5$



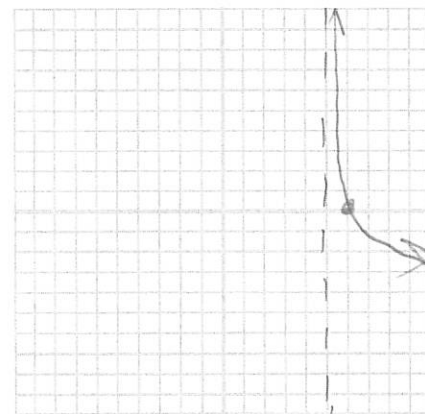
✓ 3. $f(x) = \left(\frac{2}{3}\right)^{x-1} + 2$

Domain:
 $(-\infty, \infty)$
Range:
 $(2, \infty)$
Asymptotes:
 $y = 2$



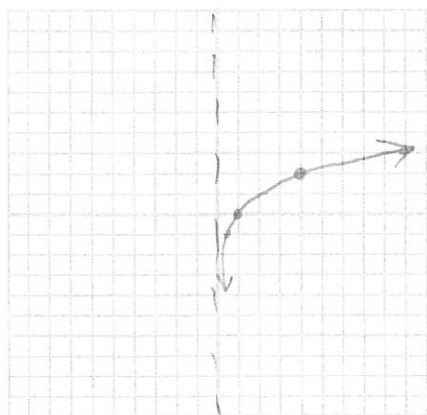
✓ 4. $g(x) = -\ln(x - 5)$

Domain:
 $(5, \infty)$
Range:
 $(-\infty, \infty)$
Asymptotes:
 $x = 5$



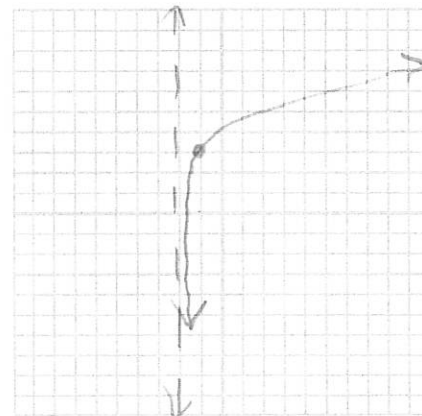
✓ 5. $f(x) = \log_2 x$

Domain:
 $(0, \infty)$
Range:
 $(-\infty, \infty)$
Asymptotes:
 $x = 0$



✓ 6. $f(x) = \log_3(x + 2) + 3$

Domain:
 $(-2, \infty)$
Range:
 $(-\infty, \infty)$
Asymptotes:
 $x = -2$



9. Completely expand the expression $\log_4 \frac{\sqrt{x}y^4}{z^4}$

$$\log_4 \sqrt{x} + \log_4 y^4 - \log_4 z^4$$

$$\frac{1}{2} \log_4 x + 4 \log_4 y - 4 \log_4 z$$

10. Completely condense the expression $2[\ln x - \ln(x+1) - \ln(x-1)]$

$$2 \left[\ln \frac{x}{(x+1)(x-1)} \right]$$

$$2 \left[\ln \frac{x}{x^2-1} \right]$$

$$\boxed{\ln \frac{x^2}{(x^2-1)^2}}$$