

Unit 5 Test Study Guide

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Find the inverse of each function.

1) $g(x) = x - 1$

2) $h(n) = \frac{-n - 5}{10}$

3) $h(x) = -6x - 4$

4) $h(x) = \frac{-20 - 3x}{4}$

5) $g(x) = \sqrt[3]{x + 1} - 1$

6) $g(n) = (n + 2)^3$

7) $g(x) = -\sqrt[3]{x} - 1$

8) $g(n) = -n^5 - 3$

Simplify. Your answer should contain only positive exponents.

9) $\frac{2^4 \cdot 2^4}{(2^{-3})^4}$

10) $\frac{2^{-1} \cdot 2^4}{(2^{-1})^{-4}}$

11) $\frac{2^{-3} \cdot 2^2}{(2^3)^4}$

12) $\left(\frac{2^4}{2 \cdot 2^{-4}}\right)^4$

13) $\left(\frac{r^{-4} \cdot 2r^0}{2r^3}\right)^2$

14) $\left(\frac{n^2 \cdot n}{n^{-3}}\right)^{-1}$

15) $\left(\frac{2b^3}{2b^4 \cdot b^0}\right)^0$

16) $\left(\frac{x^{-1}}{2x \cdot 2x^{-4}}\right)^{-3}$

17) $\frac{(x^3 y^3)^{-3}}{x^2 y^3 \cdot 2x^{-4}}$

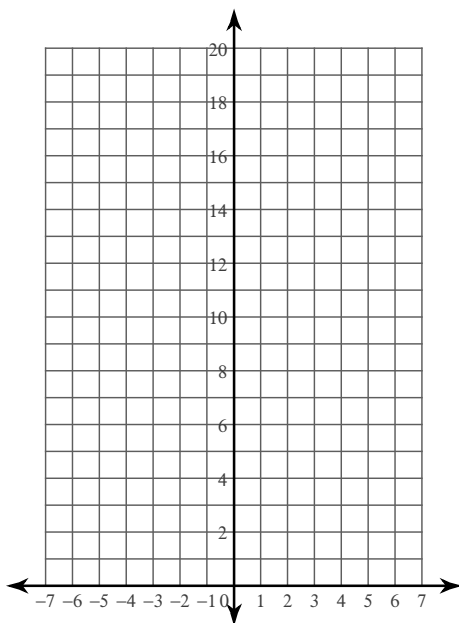
18) $\left(\frac{2x^{-4} y^{-1}}{(yx^{-1})^{-4} \cdot x^2 y^4}\right)^3$

19) $\frac{2x^0 y^2}{2x^{-2} \cdot (2yx^4)^{-3} \cdot yx^2}$

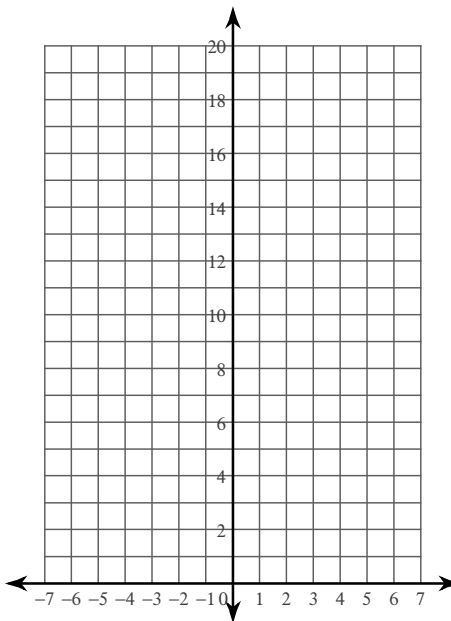
20) $\frac{mn^2 \cdot m^2 n^{-1}}{(mn^3)^4}$

Sketch the graph of each function.

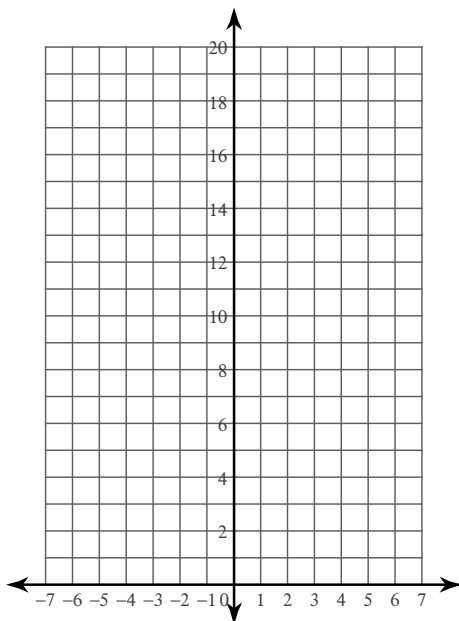
21) $f(x) = 3^x$



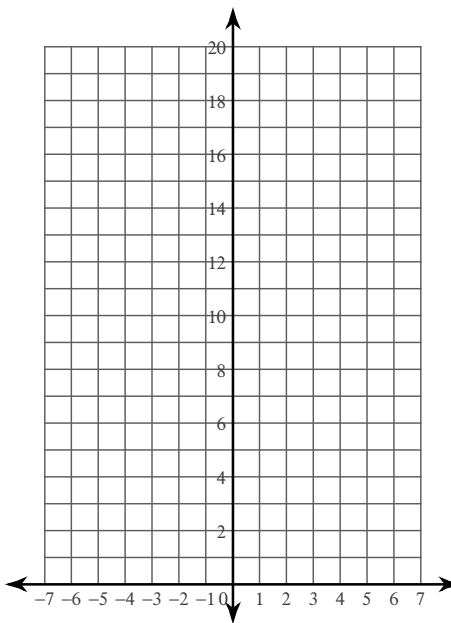
22) $f(x) = \left(\frac{1}{4}\right)^x$



23) $f(x) = 4^x$



24) $f(x) = \left(\frac{1}{3}\right)^x$



Solve each system by graphing.

25) Graph the piecewise function...
 $y = x - 2, x > 1$ and $y = x + 3, x \leq 1$

26) $y = 2x - 2, x \geq -1$ and $y = x + 3, x < -1$