

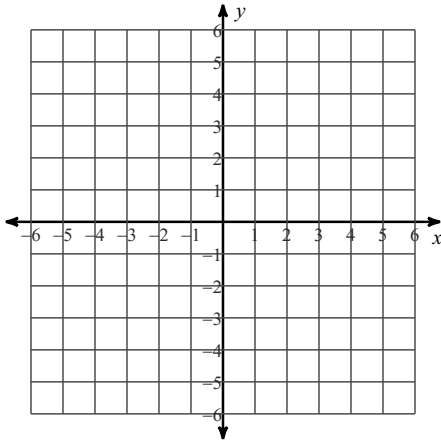
Unit 1 & 2 Cumulative Review Class-work

This assignment will be graded for accuracy (75%) and completion (25%). You must SHOW ALL YOUR WORK ON a separate sheet and place your answers on this sheet.

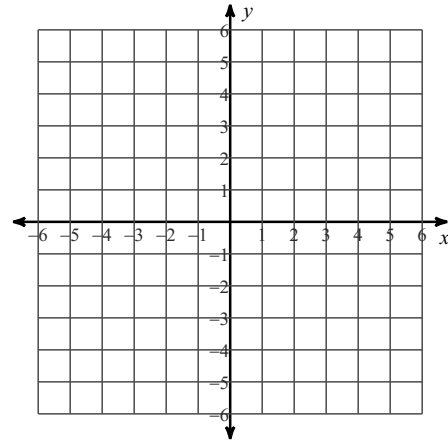
For each function:

1) State the vertex, 2) State the domain and range, and 3) Graph the function.

1) $y = 2|x - 1| + 1$



2) $y = -2|x + 3| + 3$



Solve each equation.

3) $\frac{|13 + 3x|}{3} = 1$

4) $|-13 + 10p| + 6 = 43$

5) $7|9 + 12x| + 2 = 191$

6) $13|4k - 14| - 14 = -40$

Solve each inequality and write your solution in INTERVAL NOTATION.

7) $-6x - 3 \geq 57$ and $2 - 2x < 30$

8) $7a - 14 < -28$ or $11a - 11 > 99$

9) $2 + |3v + 9| \leq 32$

10) $-8|-6 - 6a| < 48$

11) $10 + 7|1 - 8x| > 17$

12) $7 + 7|6v + 9| \leq 112$

Perform the indicated operation.

13) $g(x) = 4x + 3$
 $h(x) = -x^2 - 2x$
Find $3g(1) - h(1)$

14) $f(n) = n - 3$
 $g(n) = -2n^2 - 3n$
Find $(f + g)(n)$

15) $f(x) = 3x + 3$
 $g(x) = 2x + 5$
Find $(f - g)(x)$

16) $g(n) = n^2 + 1$
 $f(n) = 4n + 1$
Find $(g \cdot f)(n)$

Find the inverse of each function.

17) $f(x) = 5 - \frac{1}{3}x$

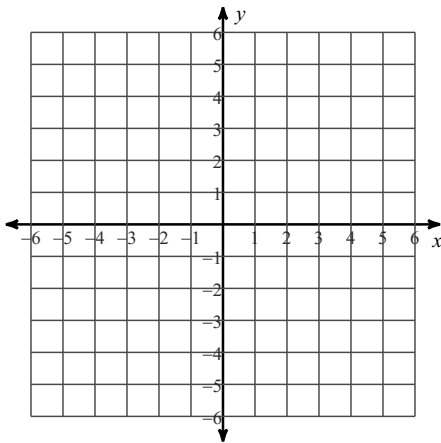
18) $g(x) = -1 + x^3$

Find the inverse of each function. Then graph the function and its inverse.

19) $f(x) = 4x + 3$

State if the given functions are inverses.

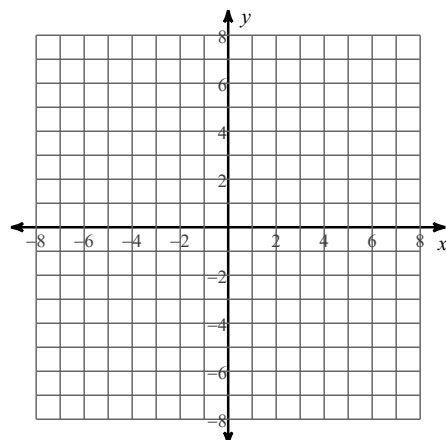
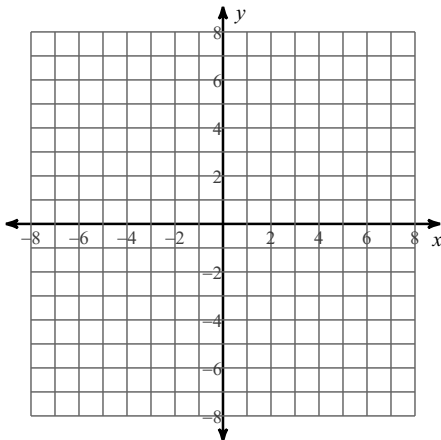
20) $f(n) = \frac{16 + 3n}{4}$
 $g(n) = 2n$



Sketch the graph of each function.

21) $f(x) = \begin{cases} x^2 + 1, & x < 1 \\ 2x - 4, & x \geq 1 \end{cases}$

22) $g(x) = \begin{cases} (x + 3)^2, & x \leq -3 \\ -4, & -3 < x < 2 \\ |x| - 4, & x \geq 2 \end{cases}$



Simplify. Your answer should contain only positive exponents.

$$23) (x^6 y^{-1} z^6)^2 \cdot x^{-7} y^{-6} z^3$$

$$24) \frac{5a^5 b^6 c^{-10}}{4ba^3 c^{10} \cdot 3a^0 c^{-2}}$$

Solve each equation.

$$25) 6^{3b} = 6^{2b-3}$$

$$26) \left(\frac{1}{36}\right)^{-r-1} = 216^{3r}$$

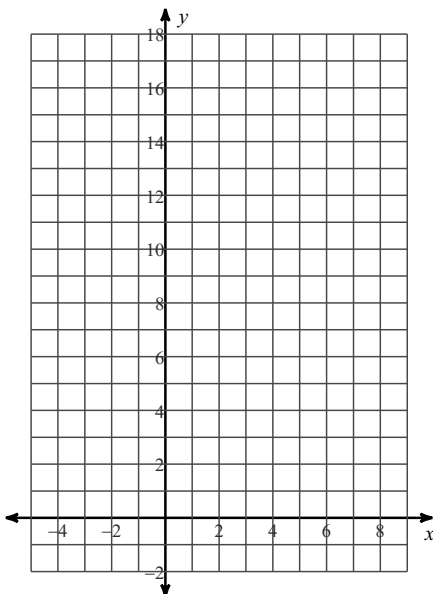
$$27) 16^{3x-1} = 64^{-2x}$$

$$28) 25^{x+1} = \left(\frac{1}{5}\right)^{-2x}$$

For each function:

- 1) Indicate if the function is growth or decay,
- 2) Identify ALL the transformations,
- 3) State the Transformed Function's asymptote,
- 4) identify the domain and range of transformed function, and
- 5) Graph the TRANSFORMED function.

$$29) y = 5 \cdot \left(\frac{1}{2}\right)^{x-2} - 2$$



$$30) y = \log_2(x+5) - 3$$

