

Sample Questions

1. Simplify.

(a) $\frac{1}{x} + \frac{2}{y}$

(b) $\frac{x^2}{x^2 - 4} - \frac{x + 1}{x + 2}$

(c) $\frac{1/x}{2}$

(d) $\left(\frac{ab^{-2}}{c^2d^{1/3}}\right)^3$

(e) $\frac{1}{y^{-1/2}}$

2. Solve for x .

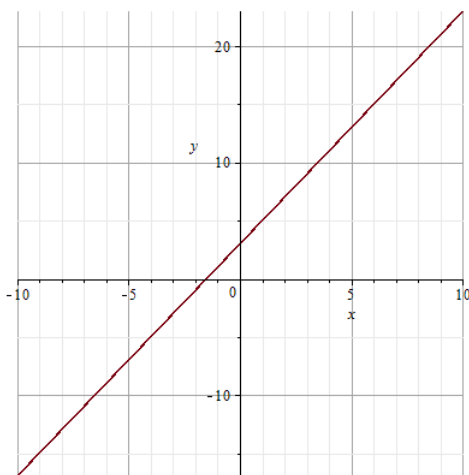
(a) $3x^2 + x - 5 = 0$

(b) $xy + 3z^2 = 0$

(c) $-3x + 9 \leq 5$

(d) $3^x = 5$

3. Find an equation of the line.



4. Expand.

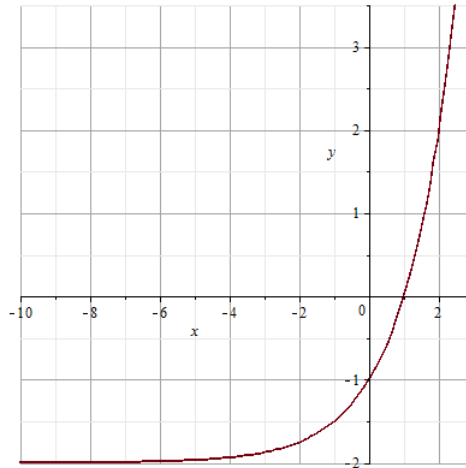
(a) $(x + 3y)^2$

(b) $2(x - 5)(x + 3)$

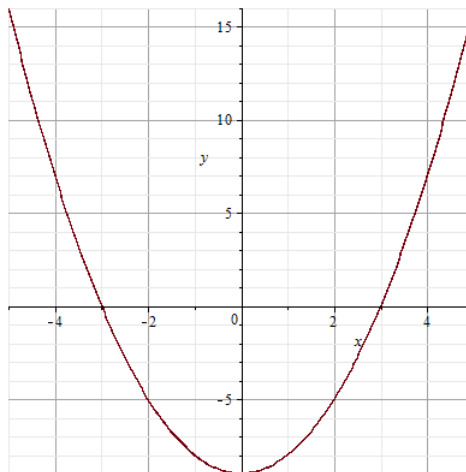
5. The sum of two numbers is 10 and their difference is 2. What are they?

6. The area of a stamp is 550mm^2 . If one of its dimensions is 22 mm, what is the other dimension?

7. If $f(x) = x^2$ and $g(x) = x + 2$, find $f(g(x))$.
8. If $f(x) = 16 - \frac{1}{x}$, for what value of x does $f(x) = 11$?
9. A line crosses through the points $(1, 0)$ and $(-1, 1)$. Find an equation of the line.
10. Find an equation of the curve.

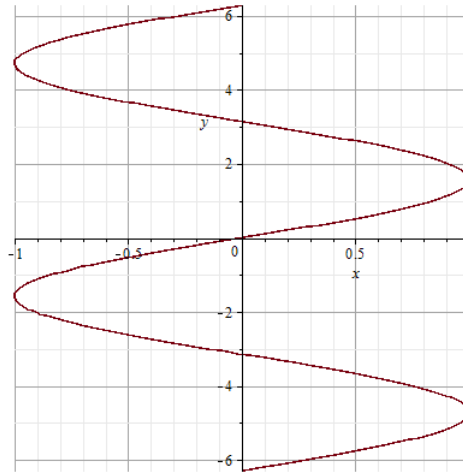


11. Find an equation of the line that passes through $(-1, 1)$ and is perpendicular to the line $x + y = 3$.
12. Consider the graph of $f(x) = x^2 - 9$ below.



Sketch a graph of $|f(x)|$ on the same grid.

13. Determine whether the graph below represents a function.



14. Find the domain of $f(x) = \frac{x}{x-8}$.