

PRECALCULUS

Domain Worksheet

Using interval notation, determine the following domains.

1. $f(x) = x + 3$

2. $g(x) = 2x^2 + 4x - 6$

3. $h(x) = \sqrt{2x - 8}$

4. $f(x) = \sqrt{9 - x^2}$

5. $g(x) = \frac{x - 5}{2x + 4}$

6. $f(x) = \frac{2}{x^3 - 9x}$

7. $y(c) = \frac{2}{c^2 + 3c}$

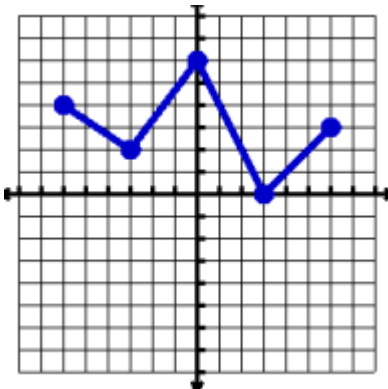
8. $q(w) = \frac{\sqrt{w + 4}}{w^2 - 1}$

9. $f(x) = \frac{x}{\sqrt{x + 3}}$

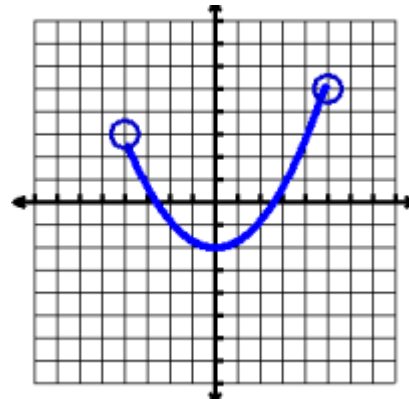
10. $t(v) = \sqrt{v^2 - 16}$

Find the domain and range of each function, using interval notation.

11.



12.



Factor each polynomial completely.

13. $x^3 - 9x$

14. $x^3 - 6x^2 - 16x$

15. $x^4 - 17x^2 + 16$

16. $x^2 - xy - 6y^2$

17. $2x^2 - 3x - 20$

18. $4x^4 - 10x^3 + 4x^2$

Solve each equation.

19. $(2x-1)^2 - 1 = 19$

20. $3 + 5x - 2x^2 = 0$

21. $2x(2x-1) = 5$

22. $3x^2 - 2x = 2x + 7$