

Find the domain of each function:

1. $d(y) = y + 3$

$D: \mathbb{R}$

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

$D: \mathbb{R}$

3. $b(n) = \sqrt{2n - 8}$

$2n - 8 \geq 0$

$2n \geq 8$

$n \geq 4$

$D: n \geq 4$

4. $m(t) = \sqrt{9 - 3t}$

$9 - 3t \geq 0$

$9 \geq 3t$

$3 \geq t$

$D: t \leq 3$

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

$2x + 4 = 0$

$2x = -4$

$x = -2$

$D: x \neq -2$

6. $a(r) = r + \frac{1}{r - 1}$

$r - 1 = 0$

$r = 1$

$D: r \neq 1$

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

$c^2 + 3c = 0$

$c(c + 3) = 0$

$c = 0 \quad c = -3$

$D: c \neq 0, -3$

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

denom. will never be zero

because the input will be squared

$D: \mathbb{R}$

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

$x + 3 > 0$

$x > -3$

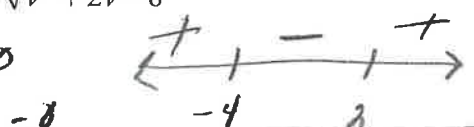
$D: x > -3$

10. $t(v) = \sqrt{v^2 + 2v - 8}$

$v^2 + 2v - 8 = 0$

$(v + 4)(v - 2) = 0$

$v = -4 \quad v = 2$



$D: (-\infty, -4] \cup [2, \infty)$

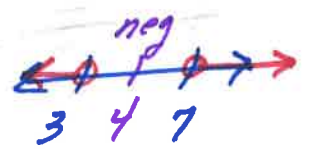
11. $n(t) = \frac{4 + 5t}{\sqrt{t^2 - 10t + 21}}$

$t^2 - 10t + 21 = 0$

$(t - 7)(t - 3) = 0$

$t = 7 \quad t = 3$

$D: (-\infty, 3) \cup (7, \infty)$



$4^2 - 10(4) + 21 = 16 - 40 + 21 = -3$