

## WS graphing rational functions #1

1. a

2. d

3. c

4. e

5. b

6. f

7. a) Vertical asymptote:  $x = 1$

Horizontal asymptote:  $y = 0$

b) Points of discontinuity  $x = 1$

c)  $D : (-\infty, 1) \cup (1, \infty)$ ;  $R : (-\infty, 0) \cup (0, \infty)$

8. a) Vertical asymptote:  $x = 1$

Horizontal asymptote:  $y = 3, y = -3$

b) Points of discontinuity  $x = 1$

c)  $D : (-\infty, 1) \cup (1, \infty)$ ;  $R (-3, \infty)$

9. a) Vertical asymptotes:  $x = 1, x = -1$

Horizontal asymptote:  $y = 3$

b) Points of discontinuity  $x = 1, -1$

c)  $D : (-\infty, -1) \cup (-1, 1) \cup (1, \infty)$ ;

$R : (-\infty, 0] \cup (3, \infty)$