

Answers to Worksheet 1 - Math 249

1a $S = [1, \infty)$
b $S = (-\frac{1}{2}, \frac{5}{6})$
c $S = (-2, -1] \cup (\frac{1}{3}, \frac{2}{3}]$
d $S = (-\infty, 1) \cup (2, \infty)$
e $S = (-2, -1) \cup (1, 2)$
f $S = [-2, 1) \cup (1, 2) \cup (2, 3]$

2. a $S = (-\infty, -\frac{1}{2}) \cup (\frac{7}{2}, \infty)$
b $S = (-\infty, -7] \cup [-\frac{1}{5}, \infty)$
c $S = \emptyset$
d $S = (-\infty, -\frac{1}{3}) \cup (-\frac{1}{3}, \infty)$
e $S = (-\infty, -2] \cup [4/3, \infty)$
f $S = [1, \infty)$
g $S = (-\infty, -\frac{1}{5}]$
h $S = [-2, \frac{1}{2}) \cup (\frac{1}{2}, \frac{4}{3}]$

3 a $\text{Dom } f = [4, 4]$
b $\text{Dom } f = (-\infty, -4] \cup [4, \infty)$
c $\text{Dom } f = (-\infty, 0) \cup (0, \infty)$
d $\text{Dom } f = [0, \infty)$
e $\text{Dom } f = \mathbb{R}$
f $\text{Dom } f = (-\infty, \frac{2}{3}) \cup (\frac{2}{3}, \infty)$