PRINTABLE VERSION

Quiz 8

Question 1

Solve the inequality for x and express the solution in interval notation: $x^2 + 4\,x - 12 \geq 0$

a) $(-\infty, 2] \cup [6, \infty)$

b) $[-2, 6]$

c) $[-6, 2]$

d) $(-\infty, -6] \cup [2, \infty)$

e) $(-\infty, -2) \cup (6, \infty)$

Question 2

Solve the inequality for x and express the solution in interval notation: $x^2 \leq 4\,x + 45$

a) $[-5, 9]$

b) $(-\infty, -9) \cup (5, \infty)$

c) $(-\infty, 5] \cup [9, \infty)$

d) $(-\infty, -5] \cup [9, \infty)$

e) $(-9, 5)$

Question 3

Solve the inequality for x and express the solution in interval notation: $4x^2 - 48 > x^2 + 18\,x$

a) $(-\infty, -8) \cup (2, \infty)$

b) $(-\infty, -2] \cup [8, \infty)$

c) $(-8, 2)$

d) $[-2, 8]$

e) $(-\infty, -2) \cup (8, \infty)$

Solve the inequality for x, given that: $x\ (2x-12)(6x-54) \geq 0$

a) $[0,6] \cup [9,\infty)$

b) $(-\infty,2) \cup (6,9)$

c) $(0,6) \cup (6,\infty)$

d) $[0,6] \cup [6,\infty)$

e) $(-2,6] \cup [9,\infty)$

Question 5

Solve the inequality for x, given that $(x-5)^2\ (32-4x) > 0$

a) $(-\infty,5) \cup (5,8)$

b) $(-5,0) \cup (5,\infty)$

c) $(-\infty,5) \cup (5,\infty)$

d) $(-\infty,-5) \cup (8,\infty)$

e) $(-5,0) \cup (0,8)$

Question 6

Solve the inequality for x, given that: $x^3 - 8\,x^2 + 12\,x \leq 0$

a) $[0,2] \cup [6,\infty)$

b) $[-2,0] \cup [6,\infty)$

c) $(-2,0) \cup (0,6)$

d) $(-\infty,-2) \cup (6,\infty)$

e) $(-\infty,0] \cup [2,6]$

Question 7

Solve the inequality for x, given that: $\dfrac{5\,x+1}{x-4} \leq 0$

a) $(-\infty,4) \cup (4,\infty)$

b) $\left[-\frac{1}{5},4\right]$

c) $[-5, 4)$

d) $\left[-\frac{1}{5}, 4\right)$

e) $\left(-\infty, -\frac{1}{5}\right] \cup (4, \infty)$

Question 8

Solve the inequality for x, given that: $\frac{2x - 8}{(x - 2)(x - 8)} < 0$

a) $(-\infty, -4) \cup (4, 8)$

b) $(-\infty, 4) \cup (4, \infty)$

c) $(-\infty, 2) \cup (4, \infty)$

d) $(-\infty, 2) \cup (4, 8)$

e) $(-\infty, -2) \cup (4, 8)$

Question 9

Solve the inequality for x, given that: $\frac{3 - x}{x - 6} \geq -4$

a) $(-\infty, 6) \cup [7, \infty)$

b) $[7, \infty)$

c) $(-\infty, 7)$

d) $(7, \infty)$

e) $(-\infty, 6] \cup [7, \infty)$

Question 10

Solve the inequality for x, given that: $\frac{1}{x - 2} + \frac{5}{2x - 18} \geq 0$

a) $(-\infty, 2) \cup [4, 9)$

b) $[2, 4] \cup [9, \infty)$

c) $(-9, 2) \cup (4, \infty)$

d) $(-\infty, 4) \cup (4, \infty)$

e) $(2, 4] \cup (9, \infty)$