

appendix A.1 P₃ A-8

3, 6, 9, 12, 15, 16, 18-66 mult
67-72 all

$\frac{3\pi}{2}$ irrational

$\frac{22}{7}$ rational

$4\frac{5}{8} = \frac{37}{8}$ rational

$0.3\overline{18}$
 $x = 0.3\overline{18}$
 $1000x = 318.1818$
 $10x = 3.1818$

$990x = 315$
 $x = \frac{315}{990} = \frac{7}{22}$

Given $a < b$,

a) $a+2 < b+2$ True

b) $5b < 5a$ False

c) $5-a > 5-b$ True

d) $\frac{1}{a} < \frac{1}{b}$ False

e) $(a-b)(b-a) > 0$

$-1(a-b)(a-b) > 0$

$-1(a-b)^2 > 0$

False

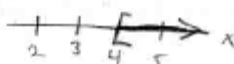
f) $a^2 < b^2$ False

16.

Interval	Set	Graph
$[-2, 0]$	$\{x: -2 \leq x \leq 0\}$	
$(-\infty, -4]$	$\{x: x \leq -4\}$	
$[3, \frac{11}{2}]$	$\{x: 3 \leq x \leq \frac{11}{2}\}$	
$(-1, 7)$	$\{x: -1 < x < 7\}$	

18. $x \geq 4$

x is 4 or more



unbounded

21. $y \geq 4$

$[4, \infty)$

24. $T > 90^\circ$

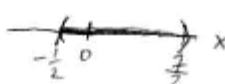
$(90, \infty)$

27. $-4 < 2x - 3 < 4$

$+3 \quad +3 \quad +3$

$-1 < \frac{2x}{2} < \frac{7}{2}$

$-\frac{1}{2} < x < \frac{7}{2}$



Al (cont)

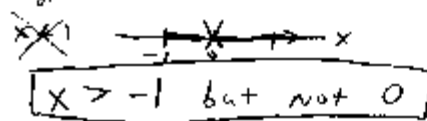
30. $x > \frac{1}{x}$

If $x > 0$ If $x < 0$

$x^2 > 1$ $x^2 < 1$

$|x| > 1$ $|x| < 1$

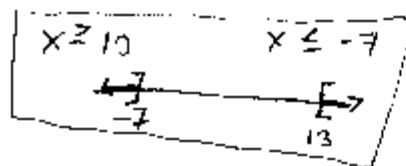
$\frac{x > 1}{\text{or}}$ $-1 < x < 1$



33. $\left| \frac{x-3}{2} \right| \geq 5$

$\frac{x-3}{2} \geq 5$ or $\frac{x-3}{2} \leq -5$

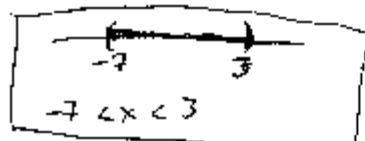
$x-3 \geq 10$ $x-3 \leq -10$



36. $|x+2| < 5$

$x+2 < 5$ or $x+2 > -5$

$x < 3$ or $x > -7$

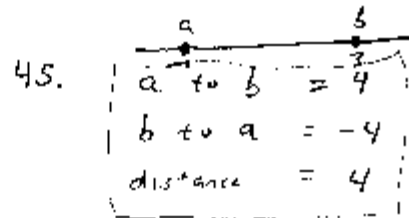
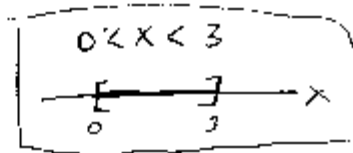


39. $\left| 1 - \frac{2}{3}x \right| < 1$

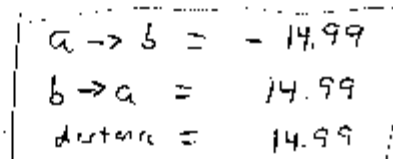
$1 - \frac{2}{3}x < 1$ or $1 - \frac{2}{3}x >$

$-\frac{2}{3}x < 0$ $-\frac{2}{3}x >$

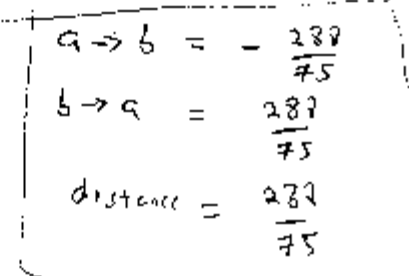
$x > 0$ $x < 3$



48. a) $a = 9.24$ $b = -5.65$



b) $a = \frac{16}{5} = \frac{400}{75}$ $b = \frac{112}{75}$



A1 (cont)

51.

a) $[7, 21]$

M.P. = $\boxed{14}$

b) $[8.6, 11.4]$

$\frac{8.6 + 11.4}{2} = \frac{20}{2} = \boxed{10}$

54. $|x| \geq 3$

57. a) at most 10 units from 12

$$|12 - x| \leq 10$$

or

$$|x - 12| \leq 10$$

b) at least 10 units from 12

$$|12 - x| \geq 10$$

or

$$|x - 12| \geq 10$$

60.

$$C = 0.32M + 2300$$

$$C = \$ \quad M = \text{miles}$$

$$19000 \geq 0.32M + 2300$$

$$7700 \geq 0.32M$$

$$\boxed{M \leq 24,062.5 \text{ miles}}$$

63. a) $\pi < \frac{355}{113}$

b) $\pi < \frac{22}{7}$

66. significant digit

are the digits.

a measurement or

computation that

statistically sig

In simpler terms

it is an indi

of the accuracy

of a measured

. If you use an

analog scale that

measures to the

gram. You can est

to the nearest 1g

by estimating that

67. False, Example π

reciprocal of 2

$\frac{1}{2}$ which is not

integer

70. True if the num

are distinct then

are not equal.

either $a < b$ or