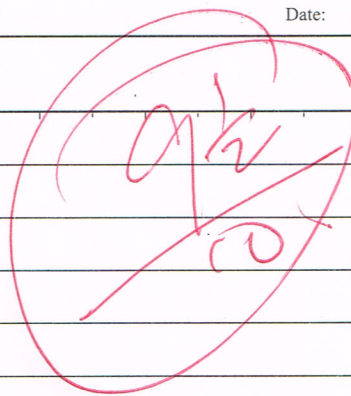


MATHEMATICS

Tutorial 2

For each of the following

- i) $2(6-4a) \leq 9a-56$
ii) $\frac{4a}{10} < \frac{7a-11}{7}$



- a) Solve the following inequalities
b) Illustrate the solution in number line
c) State the interval notation.

i) $2(6-4a) \leq 9a-56$

$$12-8a \leq 9a-56$$

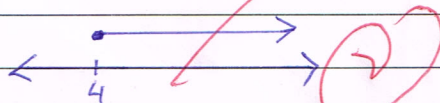
$$12-12-8a \leq 9a-56-12$$

$$-8a-9a \leq 9a-9a-68$$

$$\frac{-17a \leq -68}{-17}$$

$$\frac{-17a \leq -68}{-17}$$

$$a \geq 4$$



$$[4, \infty)$$

ii) $\frac{4a}{10} < \frac{7a-11}{7}$

$$-7(4a) < 10(7a-11)$$

$$-28a < 70a-110$$

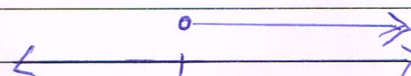
$$-28a-70a < 70a-70a-110$$

$$-98a < -110$$

$$\frac{-98a > -110}{-98}$$

$$\frac{-98a > -110}{-98}$$

$$a > 1.12$$



$$(1.12, \infty)$$

Intensive mathematics

Tutorial 2

Date

No.

For each of the following

(i) $2(6 - 4a) \leq 9a - 56$

a. Solve the following inequalities

$$12 - 8a \leq 9a - 56$$

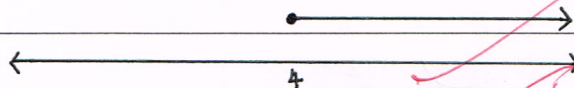
$$12 - 12 - 8a \leq 9a - 56 - 12$$

$$-8a - 9a \leq 9a - 9a - 68$$

$$\frac{-17a}{-17} \leq \frac{-68}{-17}$$

$$a \geq 4$$

b. Illustrate the solution in number line.



c. State the interval notation

$$[4, \infty)$$

ii) $\frac{4a}{10} < \frac{7a - 11}{-7}$

a. Solve the following inequalities.

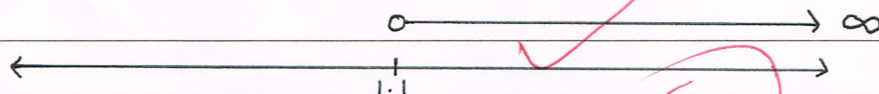
$$-28a < 70a - 11$$

$$-28a - 70a < 70a - 70a - 110$$

$$\frac{-98a}{-98} < \frac{-110}{-98}$$

$$a > 1.1$$

b. Illustrate the solution in number line.



c. State the interval notation.

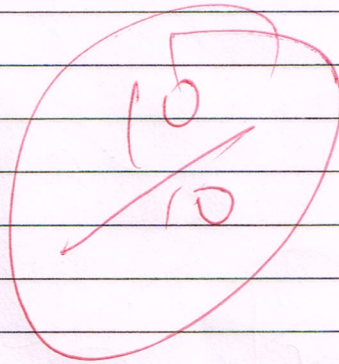
$$(1.1, \infty)$$

TUTORIAL 2

For each of the following

i) $2(6-4a) \leq 9a-56$

ii) $\frac{4a}{10} < \frac{7a-11}{-7}$



a) Solve the following inequalities

b) Illustrate the solution in number line

c) State the interval notation.

i) $2(6-4a) \leq 9a-56$

$12-8a \leq 9a-56$

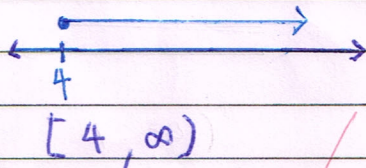
$12-12-8a \leq 9a-56-12$

$-8a-9a \leq 9a-9a-68$

$-17a \leq -68$

$-17 \quad -17$

$a \geq 4$



ii) $\frac{4a}{10} < \frac{7a-11}{-7}$

$-7(4a) < 10(7a-11)$

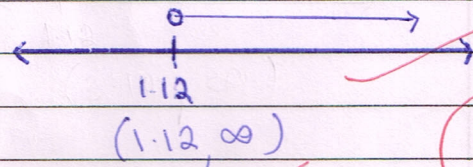
$-28a < 70a-110$

$-28a-70a < 70a-70a-110$

$-98a < -110$

$\frac{-98a}{-98} > \frac{-110}{-98}$

$a > 1.12$



(051PP181001) (051PP181005) (051PP181007)
 Victoria Sena & Surigian & Victoria Yung
 (051PP181002)

Question 1

1) $2(6-4a) \leq 9a-56$

(a) solve the following inequalities

$$2(6-4a) \leq 9a-56$$

$$= 12 - 8a \leq 9a - 56$$

$$= 12 - 8a + 8a = 9a + 8a - 56$$

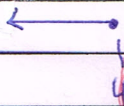
$$= 12 \leq 17a - 56 + 56$$

$$= \frac{68}{17} \leq \frac{17a}{17}$$

$$\therefore a \leq 4$$

(b) Illustrate the solution as number line

$$\bullet a \leq 4$$



(c) state the interval notation

$$(-\infty, 4]$$

Question 2

a) solve the following inequalities

$$\bullet \frac{4a}{10} < \frac{7a-11}{-7}$$

$$\neq 4a(-7) < 10(7a-11)$$

$$= -28a < 70a - 110$$

$$= -28a - 70a < 70a - 70a - 110$$

$$= \frac{-98a}{-98} < \frac{-110}{-98}$$

$$= a > 1.1$$

(c) state the interval notation
 $(1.1, \infty)$

(b) Illustrate the solution in number line

$$\bullet a > 1.1$$

 KEMENTERIAN PENDIDIKAN TINGGI JABATAN MATEMATIK, SAINS DAN KOMPUTER		COURSE CODE/ COURSE NAME		PBM1035 INTENSIVE MATHEMATICS			
		COURSEWORK ASSESSMENT		TUTORIAL 2			
		SESSION		JUNE 2018			
NAME		DURATION		60 MINS		CLO1	10 MARKS
REGISTRATION NO.				CLO2			
PROGRAMME/ SECTION				CLO3			
				TOTAL MARKS		10 MARKS	

Instructions

- Answer ALL questions. Write your answers in the spaces provided.
- Show your working to get marks. You may use a non-programmable scientific calculator.

Question

For each of the following,

(i) $2(6 - 4a) \leq 9a - 56$

(ii)

$$\frac{4a}{10} < \frac{7a - 11}{-7}$$

(a) Solve the following inequalities.

[CLO1, C2-C3]
[4 marks]

(b) Illustrate the solution in number line.

[CLO1, C2]
[4 marks]

(c) State the interval notation.

[CLO1, C1]
[2 marks]

1) $12 - 8a \leq 9a - 56$

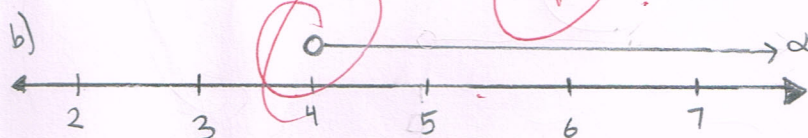
$$12 - 12 - 8a \leq 9a - 56 - 12$$

$$-8a \leq 9a - 68$$

$$-8a - 9a \leq 9a - 9a - 68$$

$$\frac{-17a}{-17} \leq \frac{-68}{-17}$$

$$a \geq 4$$



c) $(4, \infty)$

$$11) \frac{4a}{10} < \frac{7a-11}{-7}$$

$$-28a < 70a - 11$$

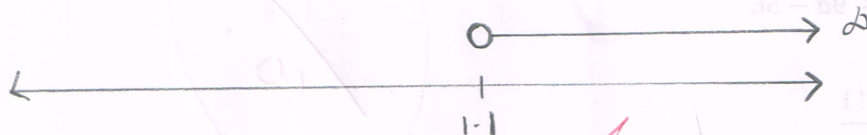
$$-28a - 70a < 70a - 70a - 110$$

$$\frac{-98a}{-98} < \frac{-110}{-98}$$

$$a > 1.1$$

1 1/2

b)



$$c) (1.1, \infty)$$

11

12

Tutorial 2

(1) $2(6 - 4a) \leq 9a - 56$

(a) solve the following inequalities

$$2(6 - 4a) \leq 9a - 56$$

$$12 - 8a \leq 9a - 56$$

$$12 - 8a \leq 9a - 56 - 12$$

$$-8a \leq 9a - 68$$

$$-8a - 9a \leq 9a - 68 - 9a$$

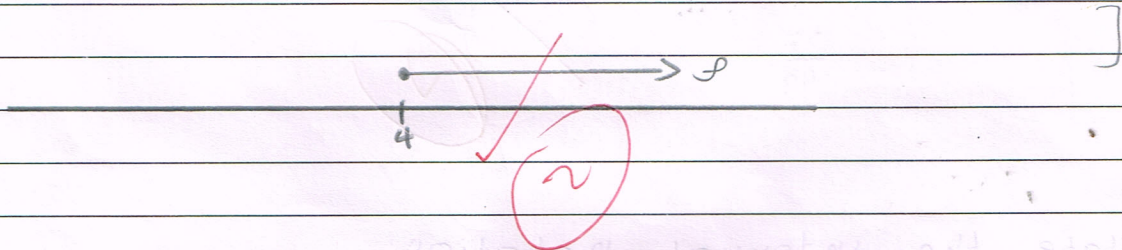
$$-17a \leq -68$$

$$-17a \leq -68$$

$$a \leq 4$$

$$a \geq 4$$

(b) illustrate the solution in number line



(c) State the interval notation

$$[4, \infty)$$

(11) $\frac{4a}{10} < \frac{7a-11}{-7}$

$$10(7a-11) < -7(4a)$$

$$70a-110 < -28a$$

$$70a-110+110 < -28a-110$$

$$70a < -138a$$

$$70 \leq 70$$

$$a < -2a$$

$$-2a < a$$

$$\frac{-2}{-2} < \frac{a}{-2}$$

$$a < -1$$

$$-7(4a) < 10(7a-11)$$

$$-28a < 70a-110$$

$$-28a-70a < 70a-70a-110$$

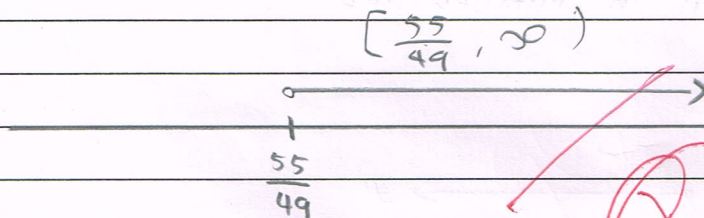
$$-98a < -110$$

$$-98 < -98$$

$$a > \frac{110}{98}$$

$$a > \frac{55}{49}$$

(a) Illustrate the solution number line



(c) state the interval notation

$$\left[\frac{55}{49}, \infty \right)$$

$$i a) 2(6-4a) \leq 9a-56$$

$$= 12-8a \leq 9a-56$$

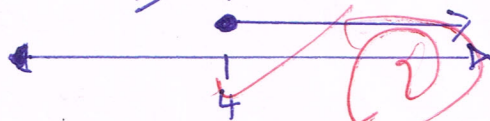
$$= 12-12-8a \leq 9a-56-12$$

$$= -8a-9a \leq 9a-9a-68$$

$$= \frac{-17a}{-17} \leq \frac{-68}{-17}$$

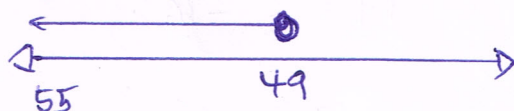
$$a \geq 4$$

$$i b) a \geq 4$$



$$[4, \infty)$$

$$ii b) a < \frac{55}{49}$$



$$(55, 49)$$

$$ii a) \frac{4a^2}{105} < \frac{7a-11}{-7}$$

$$= \frac{2a}{5} < \frac{7a-11}{-7}$$

$$= -14a > 5(7a-11)$$

$$= -14a > 35a-55$$

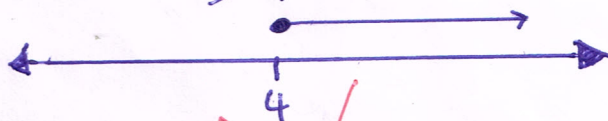
$$= -14a-35a > 35a-35a-55$$

$$= -14a-35a > -55$$

$$= \frac{-49a}{-49} < \frac{-55}{-49}$$

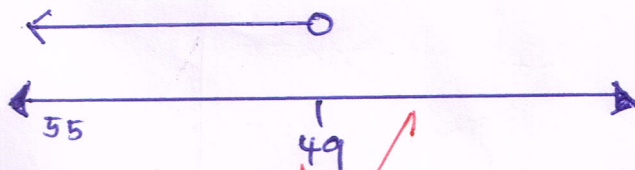
$$= a < \frac{55}{49}$$

$$i c) a \geq 4$$



$$[4, \infty)$$

$$ii c) a < \frac{55}{49}$$



$$(55, 49)$$

Nama: Haziq B. Urie

Name: Tang Mingfoo
 Registration No: 05IPPI8F1002
 Programme / Section: IPP1

Tutorial 2

Question

For each of the following.

(i) $2(6 - 4a) \leq 9a - 56$

$$\begin{aligned} &= 12 - 8a \leq 9a - 56 \\ &= 12 - 12 - 8a - 9a \leq 9a - 9a - 56 - 12 \\ &= -17a \leq -68 \\ &= \frac{-17}{-17} a \geq \frac{-68}{-17} \\ &= a \geq 4 \end{aligned}$$

(ii) $\frac{4a}{10} < \frac{7a-11}{-7}$

$$\begin{aligned} &= \frac{4a \times -7}{10 \times -7} < \frac{(7a-11) \times 10}{-7 \times 10} \\ &= \frac{-28a}{-70} < \frac{70a-110}{-70} \\ &= -28a < 70a-110 \\ &= -28a-70a < 70a-70a-110 \\ &= -98a < -110 \\ &= \frac{-98a}{-98} < \frac{-110}{-98} \\ &= a < \frac{110}{98} \end{aligned}$$

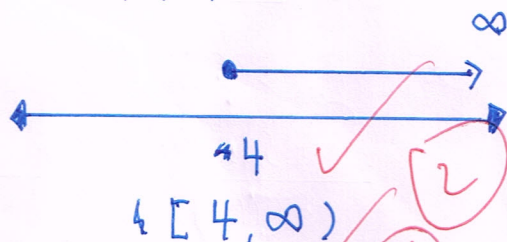
(a) Solve the following inequalities.

(i) $2(6 - 4a) \leq 9a - 56$

$$\begin{aligned} &= 12 - 8a \leq 9a - 56 \\ &= 12 - 12 - 8a \leq 9a - 56 - 12 \\ &= -9a - 8a \leq 9a - 9a - 44 \\ &= -17a \leq -68 \end{aligned}$$

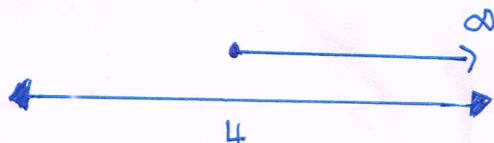
(b) Illustrate the solution in number line.

(i) $a \geq 4$



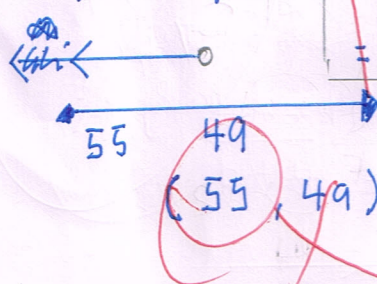
(c) State the interval notation.

(i) $a \geq 4$

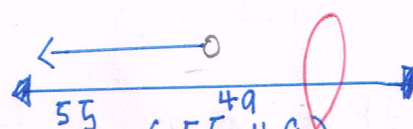


$$\begin{aligned} &= \frac{-17a}{-17} \geq \frac{-68}{-17} \\ &= a \geq 4 \end{aligned}$$

(ii) $a < \frac{55}{49}$



(ii) $a < \frac{55}{49}$



(ii) $\frac{4a}{10} < \frac{7a-11}{-7}$

$$\begin{aligned} &= \frac{-28a}{-70} < \frac{70a-110}{-70} \\ &= -28a < 70a-110 \\ &= -28a-70a < 70a-70a-110 \\ &= -98a < -110 \\ &= \frac{-98a}{-98} < \frac{-110}{-98} \\ &= a < \frac{110}{98} \end{aligned}$$

$$\begin{aligned} &= a < \frac{110}{98} \\ &= a < \frac{55}{49} \end{aligned}$$

Question

For each of the following

$\frac{3}{10}$

i) $2(6 - 4a) \leq 9a - 56$

ii) $\frac{4a}{10} < \frac{7a - 11}{-7}$

a) solve the following inequalities

b) Illustrate the solution in number line

c) State the interval notation.

i) a) $2(6 - 4a) \leq 9a - 56$

$12 - 8a \leq 9a - 56$

$12 + 12 - 8a \leq 9a - 56 - 12$

$-8a \leq 9a - 68$

$-9a - 8a \leq 9a - 9a - 68$

$\frac{-17a}{-17} \leq \frac{-68}{-17}$

$a \leq 4$

Divide by negative,
Flip the sign!!

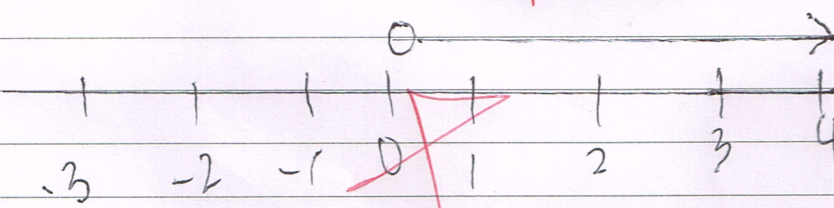
$68 \leq 17a$

$a \geq \frac{68}{17}$

$a \geq 4$

$\frac{1}{2}$

b)



c) $[4, \infty)$

$\frac{1}{2}$

ii) a) $\frac{4a}{10} < \frac{7a-11}{-7}$

$$-7(4a) < 10(7a-11)$$

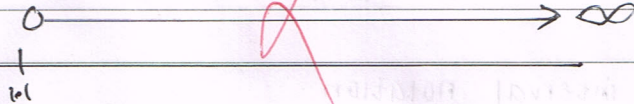
$$-28a < 70a - 110$$

$$-28a - 70a < -110$$

$$\frac{-98a}{-98} < \frac{-110}{-98}$$

$$a < 1.1$$

b)

c) $(1.1, \infty)$