



UNIT PEPERIKSAAN
POLITEKNIK KUCHING SARAWAK

Nama: Patricia Tanja Wong

No. Pend: 05IPPI7F2005

Program/Seksyen: IPP1

Tarikh: 5 Feb 2018

Kod & Nama Kursus: PBM 1035 Intensive Mathematics

17
20

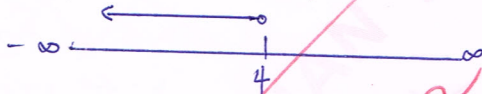
Question 1

(a) (i) $(-4, 1]$

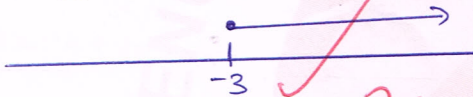
(ii) $(-\infty, 0)$

4

b) (i) $-\infty < x < 4$



(ii) $x \geq -3$



4

c) solve the following inequality

$$5(x + 3(1 - x) + 2) \geq 5$$

$$5(x + 3 - 3x + 2) \geq 5$$

$$5x + 15 - 15x + 10 \geq 5$$

$$-10x + 25 \geq 5$$

$$-10x + 25 - 25 \geq 5 - 25$$

$$-10x \geq -20$$

$$\frac{-10x}{-10} \leq \frac{-20}{-10}$$

$$x \leq 2$$



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Question 2

(a) Simplify the operations using law of indices.

(i) $2^{\frac{1}{2}} \times 4^{\frac{3}{2}}$

$= 2^{\frac{1}{2}} \times (2^2)^{\frac{3}{2}}$

$= 2^{\frac{1}{2}} \times 2^3$

$= 2^{\frac{1}{2}+3}$

$= 2^{\frac{7}{2}}$

$= 2^3 = 8 \neq$

$1^{\frac{1}{2}}$

(ii) $256^{2x-3} \times 16^{1-x} = 0$

$= (4^4)^{2x-3} \times (4^2)^{1-x} = 0$

$= 4^{8x-12} \times 4^{2-2x} = 0$

$= 4^{8x-12+2-2x} = 0$

$= 4^{6x-10} = 0$

$= 16x - 10 + 10 = 0 + 10$

$= \frac{16x}{6} = \frac{10}{6}$

$x = \frac{10}{6} \neq$

(b) solve the following equation involving indices.

(i) $9^x = 27$

$(3^2)^x = 3^3$

$3^{2x} = 3^3$

$\frac{2x}{2} = \frac{3}{2}$

$x = \frac{3}{2} \neq$

10^2

(ii) $2^{2n} = 16^{-\frac{3}{4}} \times \left(\frac{1}{4}\right)^{-2}$

$2^{2n} = (2^4)^{-\frac{3}{4}} \times \left(\frac{1}{2^2}\right)^{-2}$

$2^{2n} = 2^{-3} \times 2^{-4}$

$2^{2n} = 2^{-3+(-4)}$

$2^{2n} = 2^{-7}$

$1^{\frac{1}{2}}$