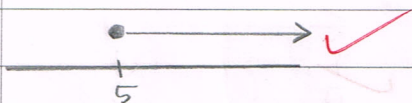


Question 4.

only draw the
number line!

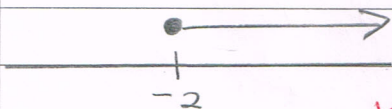
a) Show each of the following inequalities on a number line.

i) $x \geq 5$



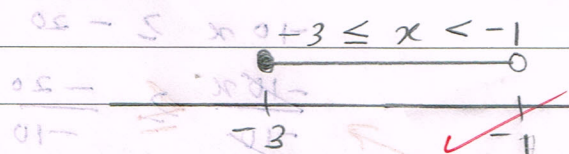
$[5, \infty)$

iii) $x \geq -2$



$[-2, \infty)$

iv) $-3 \leq x \leq -1$



$[-3, -1]$

b) Solve the following inequalities.

i) $3x - 4 < 5$

$3x - 4 + 4 < 5 + 4$

$3x < 9$

$\frac{3x}{3} < \frac{9}{3}$

$x < 3$

ii) $4 - 3x \geq x$

$4 - 3x + 3x \geq x + 3x$

$\frac{4}{4} \geq \frac{4x}{4}$

$x \geq 1$

$x \leq 1$

c) Solve and show all the integer on a number line for x which satisfy the inequalities below.

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

$$5x + 15 - 15x + 2 \geq 5$$

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

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

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

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

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

$$-10x \geq -20$$

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

once you

start the division

by negative, flip the sign.

$$x \leq 2$$

$$1 \leq x$$

$$1 \geq x$$