

SELF-EXERCISE 11

1. solve each inequality and graph its solution.

a) $3 < -5n + 2n$

$$\frac{3}{-3} < \frac{-3n}{-3}$$

$$-1 < n$$

$$n < -1$$

Flip the sign when divide by negative.

b) $6x + 2 + 6x < 14$

$$6x + 6x + 2 < 14$$

$$12x + 2 - 2 < 14 - 2$$

$$\frac{12x}{12} < \frac{12}{12}$$

$$x < 1$$

c) $-p - 4p > -10$

$$\frac{-5p}{-5} > \frac{-10}{-5}$$

$$p > 2$$

d) $9 \geq -2m + 2 - 3$

$$9 \geq -2m - 1$$

$$9 - 1 \geq -2m - 1 + 1$$

$$\frac{8}{-2} \geq \frac{-2m}{-2}$$

$$-4 \geq m$$

$$m \geq -4$$

e) $5(6 + 3r) + 7 \geq 127$

$$30 + 15r + 7 \geq 127$$

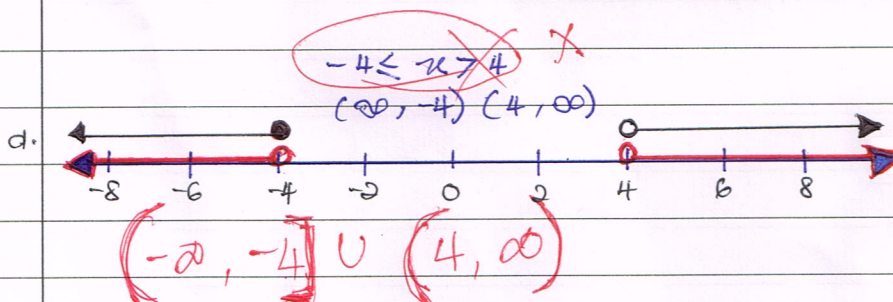
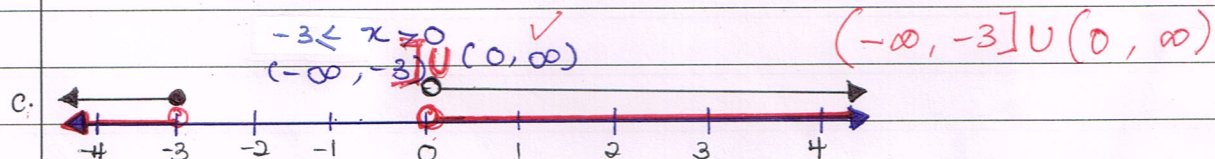
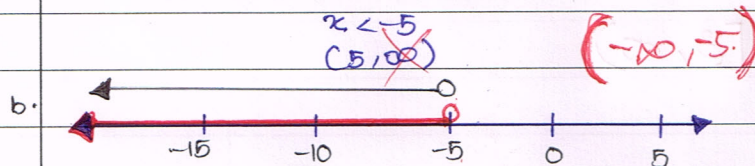
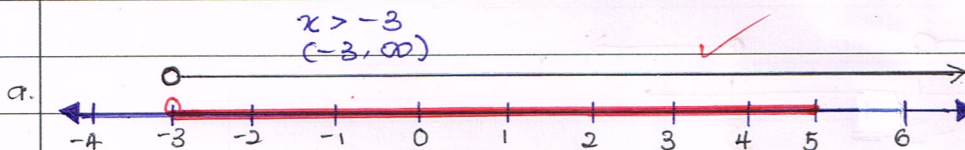
$$37 + 15r \geq 127$$

$$37 - 37 + 15r \geq 127 - 37$$

$$\frac{15r}{15} \geq \frac{90}{15}$$

$$r \geq 6$$

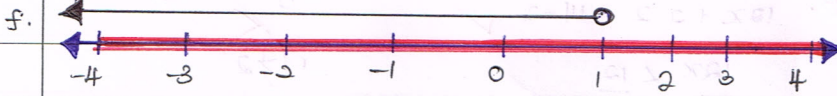
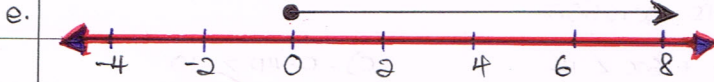
2. for each number line, write the given set of numbers in interval notation.



$$x \geq 0$$

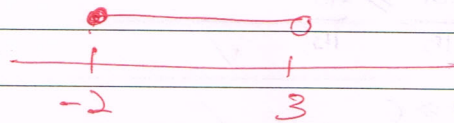
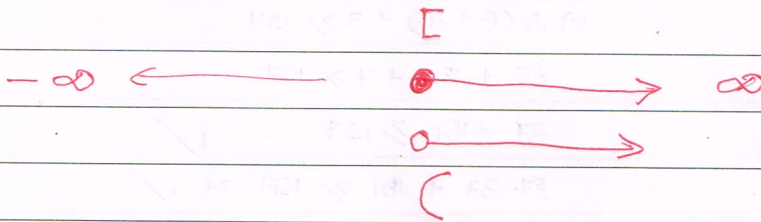
$$[0, \infty)$$

$$[0, \infty)$$

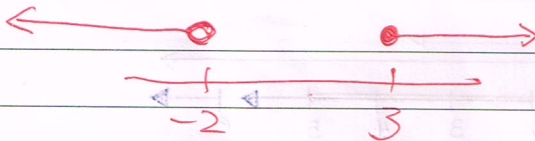


$$x < 1$$

$$(-\infty, 1)$$



$$[-2, 3)$$



$$(-\infty, -2) \cup [3, \infty)$$