End of Unit Test Name: Answers

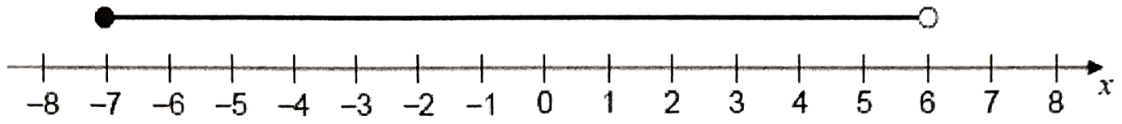
Inequalities - FOUNDATION

1. Put the correct symbol in each box. Choose from < > =

(132)	11×12	=	22×6	(132)
(9)	3^2	>	2^3	(8)
(20)	$\frac{10}{0.5}$	>	10	(10)

(Total 3 marks)

2. Circle the inequality shown by the diagram.



$-7 < x < 6$ $-7 \leq x < 6$ $-7 < x \leq 6$ $-7 \leq x \leq 6$

(Total 1 mark)

3. (a) x is an integer.
$-7 \leq x < 9$
Work out the **largest** possible value of x^2.

$(-7)^2 = 49$ or $8^2 = 64$

Answer 64

(1)

(b) y is an integer.
$-4 < x < 3$
Work out the **smallest** possible value of y^3

$(-3)^3 = -27$

Answer -27

(1)

(Total 2 marks)

4 $10 < 5 \leq 35$

Subtract 5

$2 < x \leq 7$

Answer 3, 4, 5, 6, 7

(Total 3 marks)

5 Subtract 1 $2n + 1 \leq 15$

$-1 \quad -1$

$2n \leq 14$

Divide by 2 $\frac{2n}{2} \leq \frac{14}{2}$

$n \leq 7$

Answer $n \leq 7$

(Total 2 marks)

6 (a) Subtract 7 $4x - 7 < 13$

$+7 \quad +7$

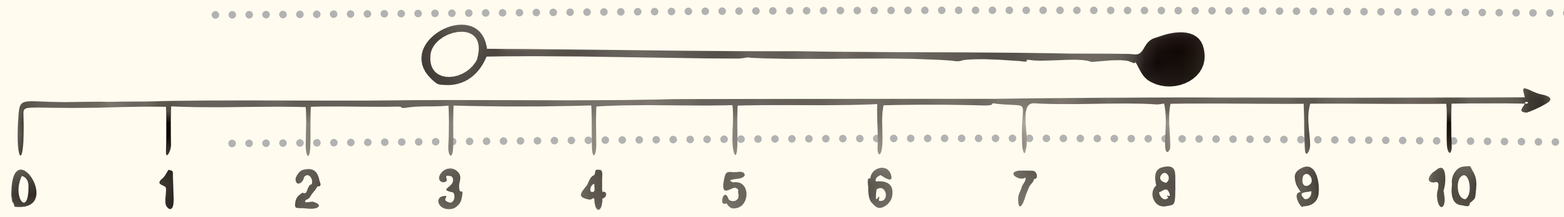
Divide by 4 $\frac{4x}{4} \leq \frac{20}{4}$

$x \leq 5$

Answer $x \leq 5$

(2)

(b) Show $3 < x \leq 8$ the number line



(2)

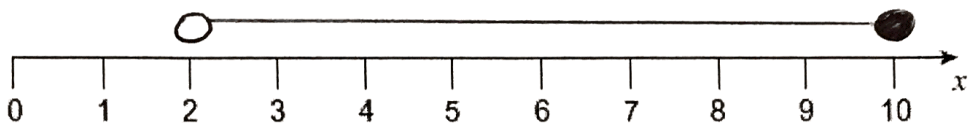
(Total 4 marks)

7. (a) Write down **all** the integers that satisfy $-3 \leq n < 2$

Answer -3, -2, -1, 0, 1

(1)

(b) Show $2 < x \leq 10$ on the number line.



(2)

(Total 3 marks)

8. Solve $5x - 2 > 3x + 11$

$-3x \quad -3x$

$2x - 2 > 11$

$+2 \quad +2$

$\frac{2x}{2} > \frac{13}{2}$

$x > 6.5$

Answer $x > 6.5$

(Total 2 marks)

(Total for test = 20 marks)