

(iii) $\frac{3}{16} < \frac{1}{4}$
 $\frac{4}{16}$

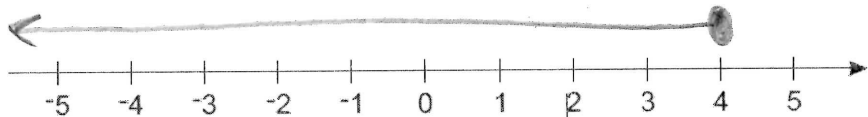
[1]

4. a) Solve this inequality.

$3x - 2 \leq 10$
 $\hookrightarrow 3x \leq 12 \quad \div 3$
 $\hookrightarrow x \leq 4 \quad \div 3$

(a) $x \leq 4$ [2]

(b) Represent your solution to part (a) on the number line.



[1]

5. w and x are whole numbers.

$w > 40$
 $x < 30$

w could be 41, 42, 43, etc
 x could be 29, 28, 27, etc.

Work out the smallest possible value of $w - x$

$w - x$ is difference between them, i.e. closest together
 is 12

[2]

6. y and z are whole numbers.

$y < 60$
 $z < 50$

57, 58, 59
 47, 48, 49, 50

Work out the largest possible value of $y + z$

largest value of both: $59 + 50 = 109$

[2]

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

$\hookrightarrow 5x > 3x + 13 \quad \div 2$
 $\hookrightarrow 2x > 13 \quad \div -3x$
 $\hookrightarrow x > 13/2 \quad \div \div 2$

[2]

assume this is meant to be \leq

8. (a) Show the inequality $-2 \ll x < 3$ on the number line below.



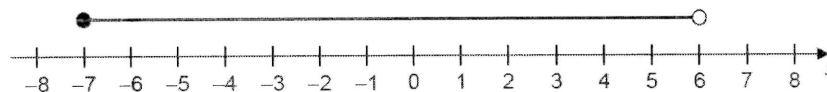
[2]

(b) Solve the inequality $4y + 7 < 16$

$\hookrightarrow 4y < 9 \quad \div -7$
 $\hookrightarrow y < 9/4 \quad \div \div 4$

[2]

9. Circle the inequality shown by the diagram.



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

[1]

10. Which symbol makes this statement correct?

$0.062 \underline{\quad} 0.52$

Circle your answer.

= < > \geq

[1]

11. a) Solve the inequality $\frac{3x}{2} \leq 9 \rightarrow 3x \leq 18$

$x \leq 6$

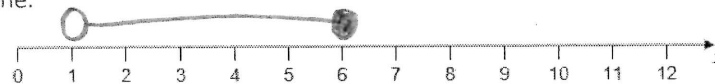
[2]

b) Solve the inequality $4(x + 2) > 12$

$\hookrightarrow x + 2 > 3 \quad \div \rightarrow x > 1$

[2]

c) Represent the solution set that satisfies both answers to parts (a) and (b) on the number line.



[1]