1 Solve $7x - 27 < 8$

$$\begin{array}{r} {\scriptstyle 1}\\ 27\\ +\ 8\\ \hline 35 \end{array}$$

$7x - 27 < 8$

$+27 \quad +27$ (1)

$7x < 35$

$\div 7 \quad \div 7$

$x < 5$ (1)

$x < 5$

(Total for Question 1 is 2 marks)

2 The box below contains three mathematical symbols.

=	<	>

From the box, choose a symbol to make each of the following statements correct.

(i) $\frac{5}{8}$ ..... $\frac{2}{8}$

> (1)

both fractions have the same denominator, so whichever numerator is larger is the greater fraction.

(1)

(ii) -2×-3 ..... $-3 + 9$

= (1)

6 6

(1)

(Total for Question 2 is 2 marks)

3 (a) Solve $\frac{5x}{2} + 3 > 18$

$5x + 3(2) > 18(2)$ (1) – multiply all terms by 3

$5x > 36 - 6$

$5x > 30$

$x > \frac{30}{5}$ (1) – divide both sides by 5 to get the value of x

$x > 6$ (1)

$x > 6$

(3)

(Total for Question 3 is 3 marks)

4 $-2 \leqslant n < 5$

n is an integer.

(a) Write down the greatest possible value of n.

n can only be less than 5, the greatest value below 5 is 4.

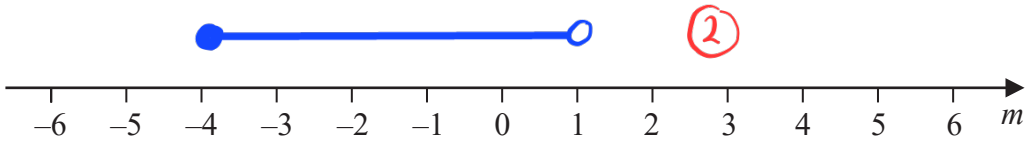
4 (1)

(1)

(b) On the number line below, show the inequality $-4 \leqslant m < 1$

● = ≤ or ≥

○ = < or >



(2)

(c) Solve $\frac{2}{5}g - 4 < 6$

$\frac{2}{5}g - 4 < 6$

$\frac{2}{5}g < 6 + 4$ (1)

$\frac{2}{5}g < 10$ (1)

×5 ( ) ×5

$2g < 50$

÷2 ( ) ÷2

$g < 25$ (1)

$g < 25$

(3)

(Total for Question 4 is 6 marks)

5 Solve $x + 11 \leqslant 5 - \frac{1}{2}x$

$x + 11 \leqslant 5 - \frac{1}{2}x$

$x + 11 (-11) \leqslant 5 - \frac{1}{2}x (-11)$ (1)

$x \leqslant -6 - \frac{1}{2}x$

$x (+\frac{1}{2}x) \leqslant -6 - \frac{1}{2}x (+\frac{1}{2}x)$

(1)

$(2)\ \frac{3}{2}x \leqslant -6 (2)$

$(\div 3)\ 3x \leqslant -12 (\div 3)$

$x \leqslant -4$ (1)

$x \leqslant -4$

(Total for Question 5 is 3 marks)