4.3.2 - Inequalities II

4.3 - Algebra - Inequalities

Leaving Certificate Mathematics

Higher Level & Ordinary Level

Example 1

Q. Solve the inequality $3x - 2 \geq 4$, $x \in \mathbb{Z}$, and illustrate your solution on the numberline.

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Example 2

Q. Solve the inequality $\frac{-x-2}{3} > 4$, $x \in \mathbb{R}$, and illustrate your solution on the numberline.

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Answer:

$$\begin{aligned} \frac{-x-2}{3} &> 4 \\ 3\left(\frac{-x-2}{3}\right) &> 3(4) \end{aligned}$$

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Q. Solve the inequality $\frac{-x-2}{3} > 4$, $x \in \mathbb{R}$, and illustrate your solution on the numberline.

Answer:

$$\begin{aligned} \frac{-x-2}{3} &> 4 \\ 3\left(\frac{-x-2}{3}\right) &> 3(4) \\ -x-2 &> 12 \end{aligned}$$

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$$\begin{aligned} \frac{-x-2}{3} &> 4 \\ 3\left(\frac{-x-2}{3}\right) &> 3(4) \\ -x-2 &> 12 \\ -x-2+2 &> 12+2 \\ -x &> 14 \end{aligned}$$

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3\left(\frac{-x-2}{3}\right) &> 3(4) \\
-x-2 &> 12 \\
-x-2+2 &> 12+2 \\
-x &> 14 \\
-1(-x) &< -1(14)
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-x-2 &> 12 \\
-x-2+2 &> 12+2 \\
-x &> 14 \\
-1(-x) &< -1(14) \\
x &< 14
\end{aligned}$$