Extra Content for Foundation GCSE

100. Solving Linear Inequalities and Representing Solutions on a Graph/Number Line

Practice Questions

1. Solve $3x - 5 > 7$.
2. Solve $5x + 2 \leq 17$.
3. Solve $2(x - 4) > 8$.
4. Solve $4x + 3 \leq 3x + 7$.
5. Solve $7 - 2x \geq 3x - 8$.
6. Solve $6(x + 2) < 18$.
7. Solve $5 - 3x \geq 2x - 10$.
8. Solve $\frac{x-1}{2} < 4$.
9. Solve $\frac{2x}{3} + 4 \geq 8$.
10. Solve $3x + 5 > 2x - 3$ and represent the solution on a number line.

Scenario Questions

1. A student needs at least 40 marks to pass an exam. If they already have 15 marks, how many more must they score?
2. A mobile plan allows up to 500 minutes per month. A user has already used 320 minutes. How many more minutes can they use?
3. A person must weigh less than 80 kg to participate in a race. If they currently weigh x kg, write an inequality to show the requirement.
4. A worker earns £12 per hour and needs at least £600 this month. How many hours must they work?
5. A train ticket costs £x, and a person can spend at most £50 on tickets. Write an inequality for the number of tickets they can buy.
6. A person can carry a maximum weight of 20 kg in a backpack. If they already have x kg packed, write an inequality for what they can still carry.
7. A factory produces x products per day but must produce at least 500 per week. Write an inequality for the daily production requirement.
8. A concert hall can seat at most 2000 people. Write an inequality for the number of tickets that can be sold.
9. A runner needs to complete a 10 km race in less than 50 minutes. Write an inequality for their pace in km per minute.
10. A parking lot can hold x cars, but at least 30 spaces must remain free. Write an inequality for the maximum number of cars that can be parked.

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Practice Questions

1. $x > 4$
2. $x \leq 3$
3. $x > 8$
4. $x \leq 4$
5. $x \leq 3$
6. $x < 1$
7. $x \leq 3$
8. $x < 9$
9. $x \geq 6$
10. $x > -8$

Scenario Questions

1. $x \geq 25$
2. $x \leq 180$
3. $x < 80$
4. $x \geq \frac{600}{\text{hourly rate}}$
5. $x \leq \frac{50}{\text{ticket price}}$
6. $x \leq 20$
7. $x \geq \frac{500}{7}$
8. $x \leq 2000$
9. $\text{pace} > \frac{10}{50}$ km/min
10. $x \leq \text{total spaces} - 30$