**Forming and Solving Inequalities GREEN**

1. Eli is ordering Italian takeout for a big game night with 20 guests in attendance. A family-size lasagne will feed at least 4 guests and an extra-large one will feed at least 10 guests. Write an inequality that describes this situation.

2. Brett has a £30 online gift voucher. He plans to buy as many books as he can. The cost of each book is £4. There is also a single shipping charge of £2. How many books can he afford without spending more than his gift voucher amount?

3. Sue and Cath have £20 left for a cab fare home. The cab fare is £3 per mile plus a £2 fixed charge. What is the maximum number of miles they will be able to travel in the cab?

4. Jennifer is planning a holiday. The hotel costs £60 per night and her flights cost £150. She has a budget of £500 for hotel and flights. Up to how many nights can she afford in the hotel?

5. Jill has a job offer. She is offered either £50 per day, or £30 per day plus a commission of £3 for every plant she sells. How many plants does she need to sell to make the commission offer the best paying option?

6. Joel is looking at costs for using a gym. He could pay £50 per month for unlimited use or he could pay £12 per month plus £4 per visit. How many visits would he have to make each month to make the £50 per month unlimited use option the cheapest one?

7. Sam and Alex play in the same soccer team. Last Saturday Alex scored 3 more goals than Sam, but together they scored less than 9 goals. What are the possible number of goals Alex scored?

8. Ben decides to build a rabbit run to keep his children’s rabbits in. The run will be rectangular with a width of 4 m. He has a maximum of 34 m of fencing to use, but wants the area to be greater than 50 m². Find the range of values for the length of the run, using inequalities.

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**Forming and Solving Inequalities AMBER**

1. Eli is ordering Italian takeout for a big game night with **20 guests** in attendance. **A family-size lasagne will feed at least 4 guests** and an **extra-large one will feed at least 10 guests**. Write an inequality that describes this situation.

2. Brett has a £30 online gift voucher. He plans to buy as many books as he can. The cost of **each book is £4**. There is also a **single shipping charge of £2**. How many books can he afford **without spending more than his gift voucher amount**?

Now solve this ☺ You can’t buy 4.5 books, so make sure your answer look logical.

4b + 2 ≤ 30

3. Sue and Cath have **£20 left** for a cab fare home. The cab fare is **£3 per mile** plus a **£2 fixed charge**. What is the maximum number of miles they will be able to travel in the cab?

2 + 3m ≤ 20

4. Jennifer is planning a holiday. The hotel costs £60 per night and her flights cost £150. She has a budget of £500 for hotel and flights. Up to how many nights can she afford in the hotel?

5. Jill has a job offer. She is offered either £50 per day, or £30 per day plus a commission of £3 for every plant she sells. How many plants does she need to sell to make the commission offer the best paying option?

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8. Ben decides to build a rabbit run to keep his children’s rabbits in. The run will be rectangular with a width of 4 m. He has a maximum of 34 m of fencing to use, but wants the area to be greater than 50 m². Find the range of values for the length of the run, using inequalities.

4

x

**Forming and Solving Inequalities RED**

1. Eli is ordering Italian takeout for a big game night with **20 guests** in attendance. **A family-size lasagne will feed at least 4 guests** and an **extra-large one will feed at least 10 guests**. Write an inequality that describes this situation.

Make the inequality out of these 3 terms.

20 4f 10e

2. Brett has a £30 online gift voucher. He plans to buy as many books as he can. The cost of **each book is £4**. There is also a **single shipping charge of £2**. How many books can he afford **without spending more than his gift voucher amount**?

Now solve this ☺ You can’t buy 4.5 books, so make sure your answer looks logical.

4b + 2 ≤ 30

- 2 - 2

4b ≤ 28

÷4 ÷4

b ≤ 7 🡪 Brett can buy 7 books

3. Sue and Cath have **£20 left** for a cab fare home. The cab fare is **£3 per mile** plus a **£2 fixed charge**. What is the maximum number of miles they will be able to travel in the cab?

Now solve this ☺ The cost is per whole mile, so make sure your answer looks logical.

2 + 3m ≤ 20

4. Jennifer is planning a holiday. The hotel costs **£60 per night** and her **flights cost £150**. She has a **budget of £500** for hotel and flights. Up to how many nights can she afford in the hotel?

5. Jill has a job offer. She is offered **either £50 per day**, or **£30 per day** plus a commission of **£3 for every plant she sells**. How many plants does she need to sell to make the commission offer the best paying option?

30 + 3p > 50

6. Joel is looking at costs for using a gym. He could pay £50 per month for unlimited use or he could pay £12 per month plus £4 per visit. How many visits would he have to make each month to make the £50 per month unlimited use option the cheapest one?

7. Sam and Alex play in the same soccer team. Last Saturday Alex scored 3 more goals than Sam, but together they scored less than 9 goals. What are the possible number of goals Alex scored?

8. Ben decides to build a rabbit run to keep his children’s rabbits in. The run will be rectangular with a width of 4 m. He has a maximum of 34 m of fencing to use, but wants the area to be greater than 50 m². Find the range of values for the length of the run, using inequalities.

4

x