# Inequalities Exam Practice

Q1. Shade the inequality $n > -3$ on the number line below.
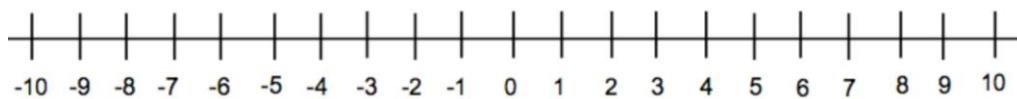
(2 marks)

Q2. Write down the inequality illustrated by the number line below:
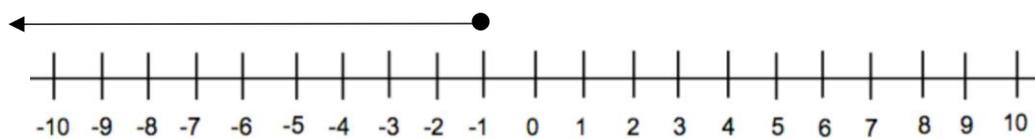
(2 marks)

Q3. Shade the inequality $n > -3$ on the number line below.
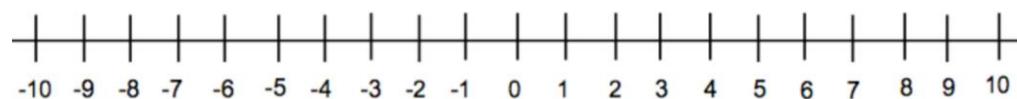
(2 marks)

Q4. Write down the inequality illustrated by the number line below:
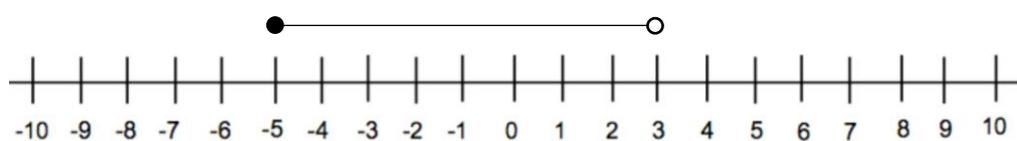
(2 marks)

Q5. Solve the inequality, $2n > -8$

(2 marks)

Q6. Solve the inequality, $6n - 19 \leq -7$

(2 marks)

Q7. Solve the inequality, $5 - 4x > -43$

(2 marks)

Q8. Solve the inequality, $5x - 13 < 23 - x$

(3 marks)

Q9. Solve the inequality, $5(3x - 4) < 11x - 18$

(3 marks)

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Q10. Solve the inequality, $\frac{x}{2} - 10 < -6$

(2 marks)

Q11. Solve the inequality, $-54 < \frac{3x}{4} - 10 \leq 34$

(3 marks)

Q12. Find all the integer solutions to the inequality: $-70 \leq 2x + 9 < 27$

(4 marks)

Q13. Find all the integer solutions to the inequality: $-4 < \frac{20}{x} > 7$

(3 marks)

Applied Mixed Practice Problems

Q14. Mike sells fruit cakes on a market stall. On each cake he sells, he makes a profit of 70p. His daily stall rent is £8. His daily aim is to make at least £25.

a) Write an inequality to represent this information

(3 marks)

b) Work out the least amount of cakes which makes need to sell to achieve his daily aim.

(2 marks)

Q15. Simone needs to buy some pencils and a ruler for school. She can spend no more than £8. The ruler costs £1.20 and the pencils cost 25p each. Let the number of pencils Simone buys be p.

a) Write an inequality for this situation.

(2 marks)

b) Solve your inequality in part b) to find the maximum number of pencils she can buy.

(2 marks)

Q16. For her holiday, Jane must have at least enough money to pay for 7 nights in a hotel and the flights. The hotel costs £65 per night and the flights cost £310. To save the money she works in a hospital where she earns £18 an hour for day shifts and £24 for night shifts. One third of her hours are night shifts. Let the number of hours Jane works be w.

a) Write an inequality for this situation, simplifying your answer.

(3 marks)

b) Find the least number of hours Jane will have to work to save the money.

(2 marks)