The Most Populous Country

NAME: .....

CLASS: .....

DATE: .....

Basic

1) Solve the following inequalities:

a) $x + 4 > 5$ b) $y + 6 < 5$ c) $t - 2 < 0$

d) $v + 6 \geq 8$ e) $d - 6 \geq 0$ f) $m + 21 < 10$

2) Solve the following inequalities:

a) $2x > 8$ b) $7m > 21$ c) $3p < -12$

d) $6b < -6$ e) $10x \geq 70$ f) $5p \leq 15$

3) The population of a town is currently 27,500. It is expected that the population will grow by a rate of 1.5% (per year) over the next five years. What will the town's population be in five years' time?

4) The value of a new car is expected to depreciate by 12.5% a year. If the car costs £17,500 now, what will be its value in three years' time?

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Core

1) Solve the following inequalities:

a) $6u \leq 54$ b) $7n \geq 84$ c) $6x > 78$

d) $2x + 1 > 5$ e) $9h + 18 < 36$ f) $4y - 2 \leq 22$

g) $3x + 7 > 1$ h) $2b - 9 > -13$ i) $11a + 11 \leq -33$

2) Solve each inequality and find the smallest whole number which makes the equation true:

a) $2y + 6 > 8$ b) $5a - 6 \geq 14$ c) $8y - 40 > 0$

3) Solve each inequality and find the largest whole number which makes the equation true:

a) $4y + 5 < 17$ b) $6x - 21 < 21$ c) $6x - 22 \leq 32$

4) A painting's current value is £32,500. The value of the painting is expected to rise by 6.5% annually. How much will the painting be worth in four years' time?

5) A plot of land is currently worth £28,000. It is expected to increase in value by 4% annually. How much will the plot of land be worth in 10 years' time?

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Advanced

1) Solve the following inequalities:

a) $-x > 4$ b) $-a < 2$ c) $-b < -6$

d) $3x + 3 > x + 9$ e) $7x + 3 > 9x + 29$ f) $15 - 7x \geq 12 - x$

g) $2(5x + 10) > 10(2x + 1)$ h) $2(4x - 7) \leq 3x - 14$

2) Mrs Brown put £28,500 in a high interest savings account. The annual rate of interest is 5.75% providing she leaves her money in the account for five years.

a) How much interest will Mrs Brown receive over the five years?

b) What will be the balance of her account after five years?

3) Robbie bought a new car for £18,500. In the next three years the value of the car depreciated by 12% annually. What was the value of the car after three years?

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ANSWERS

Basic

1) a) $x > 1$ b) $y < -1$ c) $t < 2$
d) $v \geq 2$ e) $d \geq 6$ f) $m < -11$

2) a) $x > 4$ b) $m > 3$ c) $p < -4$
d) $b < -1$ e) $x \geq 7$ f) $p \leq 3$

3) 29,625

4) £11,723.63

Core

1) a) $u \leq 9$ b) $n \geq 12$ c) $x > 13$
d) $x > 2$ e) $h < 2$ f) $y \leq 6$
g) $x > -2$ h) $b > -2$ i) $a \leq -4$

2) a) $y = 2$ b) $a = 4$ c) $y = 6$

3) a) $y = 2$ b) $x = 6$ c) $x = 9$

4) £41,810.16

5) £41,446.84

Advanced

1) a) $x < -4$ b) $a > -2$ c) $b > 6$
d) $x > 3$ e) $x < -13$ f) $x \leq \frac{1}{2}$
g) $x < 1$ h) $x \leq 0$

2) a) £9191.79 b) £37,691.79

3) £12,607.23