Year 9 Equations and Inequalities – Challenge

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Year 9 · Maths · Equations, Formulae and Inequalities · Level 3 Challenge · 8 questions

Name _____ **Date** _____

A. Think like a mathematician

1. Farah makes r the subject of $A = 16r^2$ and writes $r = A/32$. Explain the mistake and give the correct answer.

Answer _____

2. Jade makes x the subject of $y = 2x + 9$ and writes $x = y/2 - 9$. Explain the mistake and give the correct answer.

Answer _____

3. Dina says the simultaneous equations $x + y = 4$ and $x + y = 6$ have no solution. Is Dina right? Explain.

Answer _____

4. Dina says an inequality such as $x > 2$ has exactly one solution. Is Dina right? Explain.

Answer _____

5. Ivo says that $x = 2$, $y = 3$ is the solution of the simultaneous equations $x + y = 5$ and $3x + 2y = 14$. Is Ivo right? Show how you know.

Answer _____

6. The angles of a triangle are $x°$, $(2x + 30)°$ and $(3x - 6)°$. Write an equation and find x.

Answer _____

7. 2 adult tickets and 5 child tickets cost $38. 1 adult ticket and 3 child tickets cost $21. Find the cost of an adult ticket and of a child ticket.

Answer _____

8. A taxi charges $5 plus $3 per kilometre. Ana can spend at most $39. Write an inequality for the distance d km and find the greatest whole number of kilometres she can travel.

Answer _____