

Delta 3

Unit 3 Review (Non-Calculator)

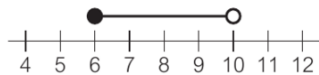
Inequalities, Equations & Formulae

How well did you do:

Inequalities, Equations & Formulae	Score = $\frac{\quad}{47}$	
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<i>Topics/skills which need to be revisited:</i>	<i>Questions from the review</i>	<i>Further Practice from Delta 3</i>
- Interpret inequalities on a numberline - Solve linear inequalities involving one inequality sign - Solve linear inequalities involving two inequality signs	1 2a,b 2c	- P63 Q1-3 - P63 Q4,6 - P64 Q5
- Use index laws involving the power zero - Simplify expressions using the index laws where the answer has a negative power and convert negative powers into fraction notation - Simplify expressions that contain numbers and at least 2 letters using the index laws	3 4 5	- P64 Q1 - P64 Q2 - P66 Q3
- Solve equations involving brackets where the unknown appears on both sides of the equals sign - Solve equations involving one algebraic fraction with a numerical denominator - Solve equations involving two algebraic fractions with numerical denominators	7a 7b 7c	- P53 Q3b - P65 Q1 - P66 Q6
- Change the subject of the formula, where the new subject appears once - Change the subject of the formula, where the new subject appears twice - Change the subject of the formula, where the new subject appears under a square root - Change the subject of the formula, where the new subject appears in a fraction	6 9a 9b 9c	- P65 Q3a-d - P65 Q4a-d - P65 Q4e,f - P66 Q7
- Write an expression as a single fraction - Simplify an algebraic fraction	8 10	- P64 Q4 - P65 Q5,6

1. Write the inequality shown below for x:



Q1 = 1 mark

2. Solve these linear inequalities

a. $-3x > 15$

(1)

b. $4c - 7 \leq 2(c - 1)$

(3)

c. $-5 < 2x + 3 < 7$

(3)

Q2 = 7 marks

3. Evaluate $10p^0$

Q3 = 1 mark

4. Simplify the following. Write your answers as a fraction AND a negative power:

a. $\frac{y^2}{y^8}$

(2)

b. $\frac{8r^3}{72r^{10}}$

(4)

Q4 = 6 marks

5. Simplify $\frac{12m^7n^2}{2m^5n^3}$

Q5 = 2 marks

6. The formula for the surface area of a sphere is $A = 4\pi r^2$, where r is the radius of the sphere. Make r the subject of the formula.

Q6 = 2 marks

7. Solve these equations

a. $-4(t + 4) = -8t - 24$

b. $\frac{4(x+2)}{3} = x - 1$

(3)

c. $\frac{3e}{2} = \frac{3(e+6)}{5}$

(3)

(4)

Q7 = 10 marks

8. Write this expression as a single fraction: $\frac{k}{m} - \frac{2a}{b}$

Q8 = 2 marks

9. Make y the subject of these formulae:

a. $xy - z = 12 + 4y$

b. $D = 3x + \frac{\sqrt{7y}}{k}$

(3)

c. $\frac{m}{n} + \frac{e}{y} = \frac{f}{4}$

(4)

(5)

Q9 = 12 marks

10. Simplify $\frac{(g+h)^2 - (g-h)(g+h)}{8}$

Q10 = 4 marks

[End of Review]