2.1 Algebraic Fractions: Simplifying, Multiplying and Dividing: 10-minute Pack

AQA 8365 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Which of the following is the fully simplified form of $(21x^4y^3)/(28x^6y^1)$?

- ☐ A) $3y^2/(4x^2)$
- ☐ B) $3x^2y^2/4$
- ☐ C) $3/(4x^2y^2)$
- ☐ D) $21y^2/(28x^2)$

(Total for Question 1 is 1 mark)

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2 Simplify fully $(16a^5b^2)/(24a^3b^6)$

(Total for Question 2 is 1 mark)

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3 Simplify fully $(12x^2y^4)/(18x^5y)$

(Total for Question 3 is 1 mark)

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4 Simplify fully $(x+5)/(x^2-16) \times (x-4)/(2x+10)$

(Total for Question 4 is 3 marks)

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5 Ben is asked to simplify $(x^2-25)/(x-5)$ and writes the answer as x-25.

(a) Explain the mistake Ben has made. **(1)**

(b) Work out the correct fully simplified answer. **(2)**

(Total for Question 5 is 3 marks)

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Mark scheme · 2.1 Algebraic Fractions: Simplifying, Multiplying and Dividing: 10-minute Pack

Question 1

correct option identified (A) oe **B1**

Answer: A) $3y^2/(4x^2)$

Question 2

$2a^2/(3b^4)$ cao **B1**

Answer: $2a^2/(3b^4)$

Question 3

$2y^3/(3x^3)$ cao **B1**

Answer: $2y^3/(3x^3)$

Question 4

x^2-16 factorised as (x-4)(x+4) **M1**

2x+10 factorised as 2(x+5); cancels (x+5) and (x-4) correctly **M1**

1/(2x+8) oe cao **A1**

Answer: 1/(2x+8)

Question 5

(a) identifies that x^2-25 must first be factorised as (x-5)(x+5) as a difference of two squares before any cancelling, rather than cancelling the 25 and the 5 as separate terms oe **B1**

(a) Answer: Ben cancelled individual terms (25 and 5) instead of factorising the numerator first.

(b) factorises x^2-25 as (x-5)(x+5) **M1**

(b) x+5 cao **A1**

(b) Answer: x+5

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