Simplify / Expand & Simplify (H)

A collection of 9-1 Maths GCSE Sample and Specimen questions from AQA, OCR, Pearson-Edexcel and WJEC Eduqas.

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Total Marks:	

1. Circle the expression that is equivalent to $2a + 5a \times 4a - a$

$20a^2$ $2a - a + 20a^2$

$a + 20a^2$ $21a^2$ $28a^2 - a$ $2a + 15a^2$

[1]

2. (a) Simplify $(t^3)^2$

$t^{3\times 2}$

t^6 [1]

(b) Simplify $\frac{w^9}{w^4}$

w^{9-4}

w^5 [1]

3. Simplify $5u^2w^4 \times 7uw^3$

$5 \times 7 \times u^2 \times u^1 \times w^4 \times w^3$

$35u^3w^7$ [2]

4. Write $2(7x + 4) - 4(x + 6) + 1$ in the form $a(bx + c)$

where a, b and c are integers and $a > 1$

$14x + 8 - 4x - 24 + 1$

$= 14x - 4x + 8 - 24 + 1$

$= 10x - 15 = 5(2x - 3)$

$5(2x-3)$ [3]

5. Simplify fully $(8x^3y^5)^2$

$8^2x^6y^{10}$ $64x^6y^{10}$

[2]

$x^2 + 3x$

6. Expand $x(x + 3)$ Circle your answer.

$2x + 3$ $x^2 + 3$ $x^2 + 3x$ $3x^2$

[1]

7. Simplify $(x^5)^2$ Circle your answer. $x^{5 \times 2}$

[1]

$x^{2.5}$ x^{7} x^{10} x^{25}

8. $y = \frac{5\sqrt{x}}{2}$

Circle the expression for y^2

$\frac{25x}{4}$ $\frac{5x}{2}$ $\frac{5x^2}{2}$ $\frac{25x^2}{4}$

[1]

$y^2 = \frac{5^2(\sqrt{x})^2}{2^2} = \frac{25x}{4}$

CREDITS AND NOTES

Question	Awarding Body
1	AQA
2	Pearson Edexcel
3	Pearson Edexcel
4	AQA
5	AQA
6	AQA
7	AQA
8	AQA

Notes:

These questions have been retyped from the original sample/specimen assessment materials and whilst every effort has been made to ensure there are no errors, any that do appear are mine and not the exam board s (similarly any errors I have corrected from the originals are also my corrections and not theirs!).

Please also note that the layout in terms of fonts, answer lines and space given to each question does not reflect the actual papers to save space.

These questions have been collated by me as the basis for a GCSE working party set up by the GLOW maths hub - if you want to get involved please get in touch. The objective is to provide support to fellow teachers and to give you a flavour of how different topics "could" be examined. They should not be used to form a decision as to which board to use. There is no guarantee that a topic will or won't appear in the "live" papers from a specific exam board or that examination of a topic will be as shown in these questions.

Links:

AQA http://www.aqa.org.uk/subjects/mathematics/gcse/mathematics-8300

OCR http://ocr.org.uk/gcsemaths

Pearson Edexcel http://qualifications.pearson.com/en/qualifications/edexcel-gcses/mathematics-2015.html

WJEC Eduqas http://www.eduqas.co.uk/qualifications/mathematics/gcse/

Contents:

This version contains questions from:

AQA – Sample Assessment Material, Practice set 1 and Practice set 2

OCR – Sample Assessment Material and Practice set 1

Pearson Edexcel – Sample Assessment Material, Specimen set 1 and Specimen set 2

WJEC Eduqas – Sample Assessment Material