Name:

Exam Style Questions

Expanding Three Brackets

Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

www.corbettmaths.com/contents

Video 15

1. Expand and simplify $(x + 2)(x + 3)(x + 6)$

$(x^2+3x+2x+6)(x+6)$

$(x^2+5x+6)(x+6)$

$x^3+6x^2+5x^2+30x+6x+36$

$x^3+11x^2+36x+36$

(4)

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2. Expand and simplify $(y + 1)(y - 2)(y + 3)$

$(y^2-2y+y-2)(y+3)$

$(y^2-y-2)(y+3)$

$y^3+3y^2-y^2-3y-2y-6$

y^3+2y^2-5y-6

(4)

3. Expand and simplify $(x - 5)(x - 2)(x - 1)$

$(x^2 - 2x - 5x + 10)(x - 1)$

$(x^2 - 7x + 10)(x - 1)$

$x^3 - x^2 - 7x^2 + 7x + 10x - 10$

$x^3 - 8x^2 + 17x - 10$

(4)

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4. Expand and simplify $(2y + 3)(y + 1)(3y - 1)$

$(2y^2 + 2y + 3y + 3)(3y - 1)$

$(2y^2 + 5y + 3)(3y - 1)$

$6y^3 - 2y^2 + 15y^2 - 5y + 9y - 3$

$6y^3 + 13y^2 + 4y - 3$

(4)

5. Expand and simplify $(5x + 1)(2x - 1)(2x - 3)$

$(10x^2 - 5x + 2x - 1)(2x - 3)$

$(10x^2 - 3x - 1)(2x - 3)$

$20x^3 - 30x^2 - 6x^2 + 9x - 2x + 3$

$20x^3 - 36x^2 + 7x + 3$

(4)

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6. Expand and simplify $(y + 3)(y + 1)^2$

$(y+3)(y+1)(y+1)$

$(y^2 + y + 3y + 3)(y+1)$

$(y^2 + 4y + 3)(y+1)$

$y^3 + y^2 + 4y^2 + 4y + 3y + 3$

$y^3 + 5y^2 + 7y + 3$

(4)

7. Expand and simplify $(x + 2)^3$

$(x+2)(x+2)(x+2)$

$(x^2+2x+2x+4)(x+2)$

$(x^2+4x+4)(x+2)$

$x^3+2x^2+4x^2+8x+4x+8$

$x^3+6x^2+12x+8$

(4)

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8. Expand and simplify $(2w - 3)^3$

$(2w-3)(2w-3)(2w-3)$

$(4w^2-6w-6w+9)(2w-3)$

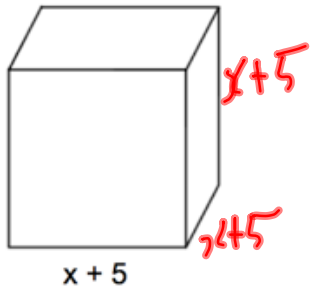
$(4w^2-12w+9)(2w-3)$

$8w^3-12w^2-24w^2+36w+18w-27$

$8w^3-36w^2+54w-27$

(4)

9. Shown below is a cube with side length x + 5 cm.



Show that the volume of the cube is $x^3 + 15x^2 + 75x + 125$

$(x+5)(x+5)(x+5)$

$(x^2+10x+25)(x+5)$

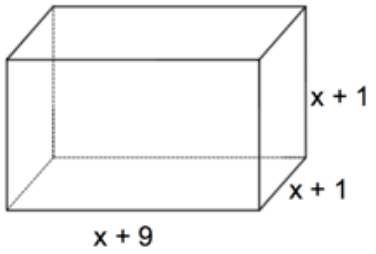
$x^3+5x^2+10x^2+50x+25x+125$

$x^3+15x^2+75x+125$

QED.

(3)

10. Shown below is a cuboid.



Form an expression for the volume of the cuboid.
Expand and simplify the expression.

$(x+9)(x+1)(x+1)$

$(x^2+10x+9)(x+1)$

$x^3+x^2+10x^2+10x+9x+9$

$x^3+11x^2+19x+9$

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(4)