Name:

Exam Style Questions

Expanding Two Brackets

Corbettmaths

Equipment needed: Calculator, pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

www.corbettmaths.com/contents

Video 14

Answers and Video Solutions

1. Expand and simplify $(y+3)(y+5)$

$y^2 + 5y + 3y + 15$

$y^2 + 8y + 15$

$y^2 + 8y + 15$

(2)

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

$x^2 - x + 5x - 5$

$x^2 + 4x - 5$

$x^2 + 4x - 5$

(2)

3. Expand and simplify $(w-2)(w-7)$

$w^2 - 7w - 2w + 14$

$w^2 - 9w + 14$

$w^2 - 9w + 14$

(2)

4. Expand and simplify $(x-10)(x+3)$

$x^2 + 3x - 10x - 30$

$x^2 - 7x - 30$

$x^2 - 7x - 30$

(2)

5. Expand and simplify $(x-4)(x+6)$

$x^2+6x-4x-24$

$x^2+2x-24$

$x^2+2x-24$

(2)

6. Expand and simplify $(x-3)(x+3)$

$x^2+3x-3x-9$

x^2-9

x^2-9

(2)

7. Expand and simplify $(x-7)^2$

$(x-7)(x-7)$

$x^2-7x-7x+49$

$x^2-14x+49$

$x^2-14x+49$

(2)

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

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

$2y^2+7y+3$

$2y^2+7y+3$

(2)

9. Expand and simplify $(4x + 1)(3x - 5)$

$12x^2 - 20x + 3x - 5$

$12x^2 - 17x - 5$

$12x^2 - 17x - 5$

(2)

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

$6x^2 + 9x - 4x - 6$

$6x^2 + 5x - 6$

$6x^2 + 5x - 6$

(2)

11. Expand and simplify $(5y - 1)(y - 2)$

$5y^2 - 10y - y + 2$

$5y^2 - 11y + 2$

$5y^2 - 11y + 2$

(2)

12. Expand and simplify $(7x - 20)(9x - 10)$

$63x^2 - 70x - 180x + 200$

$63x^2 - 250x + 200$

$63x^2 - 250x + 200$

(2)

13. Expand and simplify $(2x + 5)^2$

$(2x + 5)(2x + 5)$

$4x^2 + 10x + 10x + 25$

$4x^2 + 20x + 25$

$4x^2 + 20x + 25$

(2)

14. Expand and simplify $(4x - 3)^2$

$(4x - 3)(4x - 3)$

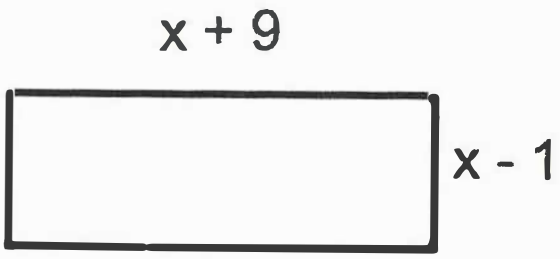
$16x^2 - 12x - 12x + 9$

$16x^2 - 24x + 9$

$16x^2 - 24x + 9$

(2)

15. A rectangle is shown below.



The length of the rectangle is x + 9 cm.
The width of the rectangle is x – 1 cm.

Form an expression for the area of the rectangle.

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

$x^2 - x + 9x - 9$

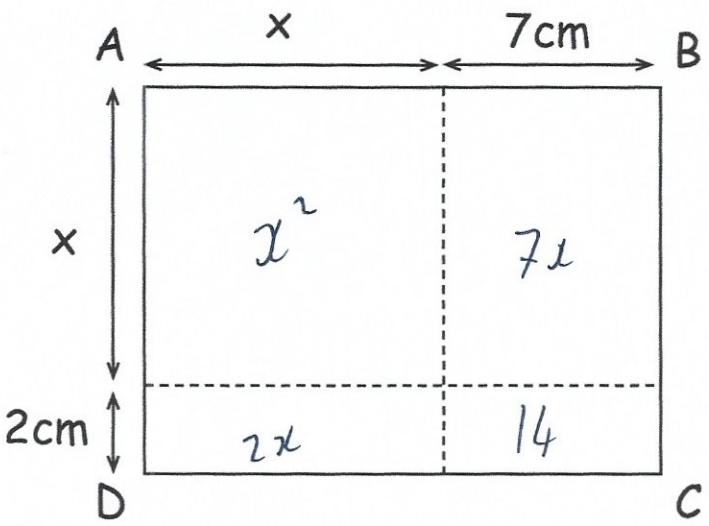
$x^2 + 8x - 9$

$x^2 + 8x - 9$

.....

(3)

16. Rectangle ABCD is shown below.



The area rectangle ABCD is 230cm²

Show that $x^2 + 9x = 216$ $(x+7)(x+2)$

$x^2 + 7x + 2x + 14 = 230$

$x^2 + 9x + 14 = 230$

$x^2 + 9x = 216$

(4)

17. Expand and simplify $(3 + g)(5 - g)$

$15 - 3g + 5g - g^2$

$15 + 2g - g^2$

$15 + 2g - g^2$

(2)

18. Micah correctly expands and simplifies $(2x + 11)(x - 3)$

Circle the term that is part of his answer

$8x$ $\quad -5x \quad$ $(5x)$ $\quad -8x$

$2x^2 - 6x + 11x - 33$

$2x^2 + 5x - 33$

(1)

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

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

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

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

.....

(2)

20. Expand and simplify $(w + 3)(w + 4) + (w + 2)(w + 7)$

$w^2 + 4w + 3w + 12$

$w^2 + 7w + 12$

$w^2 + 7w + 2w + 14$

$w^2 + 9w + 14$

$2w^2 + 16w + 26$

$2w^2 + 16w + 26$

.....

(3)

21. Expand and simplify $(3y-5)(y+4)-(y-3)(y-5)$

$3y^2+12y-5y-20 \qquad y^2-5y-3y+15$

$3y^2+7y-20 \quad - \quad (y^2-8y+15)$

$2y^2+15y-35$

(3)

22. Expand and simplify $(4y^2+5)(2y+1)-3y(y^2-6)$

$8y^3+4y^2+10y+5-3y^3+18y$

$5y^3+4y^2+28y+5$

$5y^3+4y^2+28y+5$

(4)

23. $(x + c)(x + d) \equiv x^2 + px + 72$

c is twice the value of d

Find two possible values of p

$x^2 + dx + cx + cd \equiv x^2 + px + 72$

$cd = 72$

$c = 12 \quad d = 6$

$c = -12 \quad d = -6$

$(x + 12)(x + 6) = x^2 + 6x + 12x + 72$

$x^2 + 18x + 72$

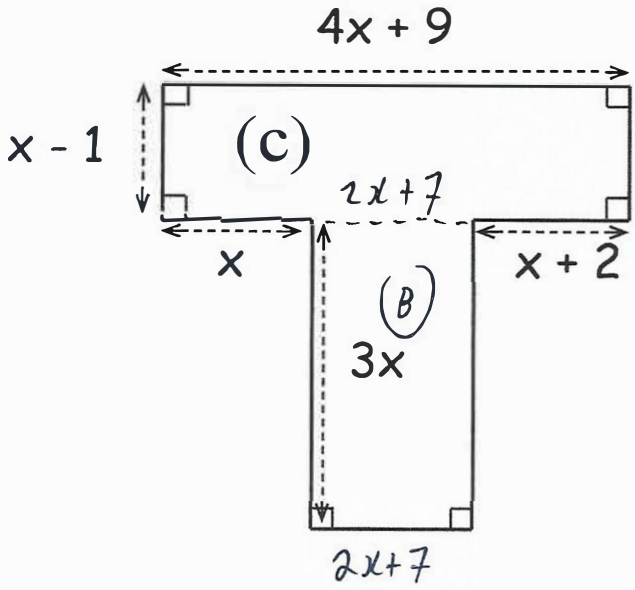
$(x - 12)(x - 6) = x^2 - 6x - 12x + 72$

$= x^2 - 18x + 72$

p = 18 or p = -18

(3)

24.



The area of the shape shown above is A.

Show that $A = 10x^2 + 26x - 9$

(C) $(4x+9)(x-1) = 4x^2 - 4x + 9x - 9$

$= 4x^2 + 5x - 9$

(B) $3x(2x+7) = 6x^2 + 21x$

(C) + (B) $= 10x^2 + 26x - 9$

Total Area = A

$A = 10x + 26x - 9$

(4)