

ALGEBRA-WORKSHEET



TASK A

Expand the brackets and collect like terms.

1. $3a + 2(a + 4)$

2. $7a - 2(a - 3)$

3. $5a - 2(2a + 4)$

4. $3a - (a + 4)(a - 2)$

5. $y - (3y - 1)(y + 1)$

6. $3(x - y) - 2(x + 2y)$

TASK B

Expand the brackets and simplify.

1. $(x + 3)(x + 2)$

2. $(x - 3)(x + 4)$

3. $(y - 3)(y + 3)$

4. $(x + 9)(x - 9)$

5. $(y + 1)(y + 1)$

6. $(4x - 1)(4x - 1)$

7. $(2y + 1)(3y + 4)$

8. $(4x - 1)(3x + 2)$

9. $(3x - 1)(3x + 1)$

10. $2(x - 1)(x + 2)$

11. $3(x - 1)(2x + 3)$

12. $(2y + 1)(2y + 1)$

13. $(4x - 1)(4x - 1)$

14. $-2(a + 5)(2a - 7)$

15. $-5(3a - 5)(a + 2)$

16. $3a(a - 2m)(a + 2m)$

TASK C

Factorise.

1. $x^2 + 7x + 10$

2. $x^2 + 15x + 36$

3. $x^2 - 2x - 35$

4. $x^2 - 8x + 15$

5. $x^2 - 8x + 16$

6. $x^2 - 3x - 28$

7. $6x^2 + 7x + 2$

8. $3x^2 - 11x + 6$

9. $3x^2 - 11x + 10$

10. $x^2 - 16$

11. $x^2 + 2x + 1$

12. $x^2 - 49x$

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TASK D

Factorise.

1. $2x^2 + 14x + 20$

2. $2x^2 + 30x + 72$

3. $4x^2 + 10x + 6$

4. $3x^2 - 3x - 60$

5. $2x^2 - 18$

6. $3x^2 - 6x - 24$

7. $6x^2 + 21x + 15$

8. $6x^2 - 22x + 12$

TASK E

Factorise and simplify.

1. $\frac{x^2 + 7x + 10}{x^2 + 3x - 10}$

2. $\frac{x^2 + 4x + 4}{x^2 + 6x + 8}$

3. $\frac{x^2 + 6x + 9}{x^2 - 9}$

4. $\frac{x^2 - 3x}{x^2 - 2x - 3}$

5. $\frac{2x^2 + 12x + 10}{x^2 - x - 2}$

6. $\frac{3x^2 + 6x + 3}{3x^2 - 3}$

7. $\frac{2x^2 - 5x - 3}{2x^2 - 3x - 9}$

8. $\frac{3x^2 + x - 4}{9x^2 - 16}$

9. $\frac{x^2 - 4x - 21}{x^2 - 5x - 14}$

10. $\frac{4x^2 + 2x}{4x^2 - 1}$

TASK F

Make a the subject of the formula.

1. $\frac{5}{a+1} = 2$

2. $\frac{a-A}{B} = T$

3. $\frac{a-1}{a+N} = A$

4. $\frac{m+Aa}{a} = c$

5. $q = \frac{ga+b}{r}$

6. $\frac{A}{a} + B = C$

7. $\frac{a+3}{a+b} = n$

8. $\frac{10a}{a+q} = 2$

9. $\frac{aK}{a+m} = C$