

factoring?

verb (used with object)

10. *Mathematics* . to express (a mathematical quantity) as a product of two or more quantities of like kind, as $30 = 2 \cdot 3 \cdot 5$, or $x^2 - y^2 = (x + y)(x - y)$. Compare expand (def 4a) .



Pushed to the max by the algebra test, Tim's brain spontaneously combusted.

Monday 6JAN14 HW

Factor each polynomial.

1. $64 - 40ab$

2. $4d^2 + 16$

3. $6r^2s - 3rs^2$

4. $15cd + 30c^2d^2$

5. $32a^2 + 24b^2$

6. $36xy^2 - 48x^2y$

7. $30x^3y + 35x^2y^2$

8. $9c^3d^2 - 6cd^3$

9. $75b^2c^3 + 60bc^3$

10. $8p^2q^2 - 24pq^3 + 16pq$

11. $5x^3y^2 + 10x^2y + 25x$

12. $9ax^3 + 18bx^2 + 24cx$

13. $x^2 + 4x + 2x + 8$

14. $2a^2 + 3a + 6a + 9$

15. $4b^2 - 12b + 2b - 6$

16. $6xy - 8x + 15y - 20$

17. $-6mn + 4m + 18n - 12$

18. $12a^2 - 15ab - 16a + 20b$

Tuesday 7JAN14 HW

Exercises

Factor each trinomial, if possible. If the trinomial cannot be factored using integers, write *prime*.

1. $2x^2 - 3x - 2$

2. $3m^2 - 8m - 3$

3. $16r^2 - 8r + 1$

4. $6x^2 + 5x - 6$

5. $3x^2 + 2x - 8$

6. $18x^2 - 27x - 5$

7. $2a^2 + 5a + 3$

8. $18y^2 + 9y - 5$

9. $-4c^2 + 19c - 21$

10. $8x^2 - 4x - 24$

11. $28p^2 + 60p - 25$

12. $48x^2 + 22x - 15$

13. $3y^2 - 6y - 24$

14. $4x^2 + 26x - 48$

15. $8m^2 - 44m + 48$

16. $6x^2 - 7x + 18$

17. $2a^2 - 14a + 18$

18. $18 + 11y + 2y^2$

Wednesday 8JAN14 HW



Factoring Trinomials: $ax^2 + bx + c$

Factor each trinomial, if possible. If the trinomial cannot be factored using integers, write *prime*.

1. $2b^2 + 10b + 12$

2. $3g^2 + 8g + 4$

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

4. $8b^2 - 5b - 10$

5. $6m^2 + 7m - 3$

6. $10d^2 + 17d - 20$

7. $6a^2 - 17a + 12$

8. $8w^2 - 18w + 9$

9. $10x^2 - 9x + 6$

10. $15n^2 - n - 28$

11. $10x^2 + 21x - 10$

12. $9r^2 + 15r + 6$

13. $12y^2 - 4y - 5$

14. $14k^2 - 9k - 18$

15. $8z^2 + 20z - 48$

16. $12q^2 + 34q - 28$

17. $18h^2 + 15h - 18$

18. $12p^2 - 22p - 20$

Thursday 9JAN14 HW

Factor each polynomial if possible. If the polynomial cannot be factored, write *prime*.

1. $x^2 - 81$

2. $m^2 - 100$

3. $16n^2 - 25$

4. $36x^2 - 100y^2$

5. $49x^2 - 32$

6. $16a^2 - 9b^2$

7. $225c^2 - a^2$

8. $72p^2 - 50$

9. $-2 + 2x^2$

10. $-81 + a^4$

11. $6 - 54a^2$

12. $8y^2 - 200$

13. $4x^3 - 100x$

14. $2y^4 - 32y^2$

15. $8m^3 - 128m$

16. $6x^2 - 25$

17. $2a^3 - 98ab^2$

18. $18y^2 - 72y^4$

Factor each polynomial.

1. $64 - 40ab$
 $8(8 - 5ab)$

4. $15cd + 30c^2d^2$
 $15cd(1 + 2cd)$

7. $30x^3y + 35x^2y^2$
 $5x^2y(6x + 7y)$

10. $8p^2q^2 - 24pq^3 + 16pq$
 $8pq(pq - 3q^2 + 2)$

13. $x^2 + 4x + 2x + 8$
 $(x + 2)(x + 4)$

16. $6xy - 8x + 15y - 20$
 $(2x + 5)(3y - 4)$

2. $4d^2 + 16$
 $4(d^2 + 4)$

5. $32a^2 + 24b^2$
 $8(4a^2 + 3b^2)$

8. $9c^3d^2 - 6cd^3$
 $3cd^2(3c^2 - 2d)$

11. $5x^3y^2 + 10x^2y + 25x$
 $5x(x^2y^2 + 2xy + 5)$

14. $2a^2 + 3a + 6a + 9$
 $(a + 3)(2a + 3)$

17. $-6mn + 4m + 18n - 12$
 $(-2m + 6)(3n - 2)$

3. $6r^2s - 3rs^2$
 $3rs(2r - s)$

6. $36xy^2 - 48x^2y$
 $12xy(3y - 4x)$

9. $75b^2c^3 + 60bc^3$
 $15bc^3(5b + 4)$

12. $9ax^3 + 18bx^2 + 24cx$
 $3x(3ax^2 + 6bx + 8c)$

15. $4b^2 - 12b + 2b - 6$
 $(4b + 2)(b - 3)$

18. $12a^2 - 15ab - 16a + 20b$
 $(3a - 4)(4a - 5b)$

Factor each trinomial, if possible. If the trinomial cannot be factored using integers, write *prime*.

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

2. $3m^2 - 8m - 3$
 $(3m + 1)(m - 3)$

3. $16r^2 - 8r + 1$
 $(4r - 1)(4r - 1)$

4. $6x^2 + 5x - 6$
 $(2x + 3)(3x - 2)$

5. $3x^2 + 2x - 8$
 $(3x - 4)(x + 2)$

6. $18x^2 - 27x - 5$
 $(3x - 5)(6x + 1)$

7. $2a^2 + 5a + 3$
 $(2a + 3)(a + 1)$

8. $18y^2 + 9y - 5$
 $(6y + 5)(3y - 1)$

9. $-4c^2 + 19c - 21$
 $(4c - 7)(3 - c)$

10. $8x^2 - 4x - 24$
 $(4x - 8)(2x + 3)$

11. $28p^2 + 60p - 25$
 $(2p + 5)(14p - 5)$

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 $(6x + 5)(8x - 3)$

13. $3y^2 - 6y - 24$
 $3(y + 2)(y - 4)$

14. $4x^2 + 26x - 48$
 $2(x + 8)(2x - 3)$

15. $8m^2 - 44m + 48$
 $4(2m - 3)(m - 4)$

16. $6x^2 - 7x + 18$
prime

17. $2a^2 - 14a + 18$
 $2(a^2 - 7a + 9)$

18. $18 + 11y + 2y^2$
prime

Factor each trinomial, if possible. If the trinomial cannot be factored using integers, write *prime*.

1. $2b^2 + 10b + 12$

$2(b + 2)(b + 3)$

2. $3g^2 + 8g + 4$

$(3g + 2)(g + 2)$

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

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

4. $8b^2 - 5b - 10$

prime

5. $6m^2 + 7m - 3$

$(3m - 1)(2m + 3)$

6. $10d^2 + 17d - 20$

$(5d - 4)(2d + 5)$

7. $6a^2 - 17a + 12$

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

8. $8w^2 - 18w + 9$

$(4w - 3)(2w - 3)$

9. $10x^2 - 9x + 6$

prime

10. $15n^2 - n - 28$

$(5n - 7)(3n + 4)$

11. $10x^2 + 21x - 10$

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

12. $9r^2 + 15r + 6$

$3(3r + 2)(r + 1)$

13. $12y^2 - 4y - 5$

$(2y + 1)(6y - 5)$

14. $14k^2 - 9k - 18$

$(2k - 3)(7k + 6)$

15. $8z^2 + 20z - 48$

$4(z + 4)(2z - 3)$

16. $12q^2 + 34q - 28$

$2(3q - 2)(2q + 7)$

17. $18h^2 + 15h - 18$

$3(2h + 3)(3h - 2)$

18. $12p^2 - 22p - 20$

$2(3p + 2)(2p - 5)$

Factor each polynomial if possible. If the polynomial cannot be factored, write *prime*.

1. $x^2 - 81$
 $(x + 9)(x - 9)$

2. $m^2 - 100$
 $(m + 10)(m - 10)$

3. $16n^2 - 25$
 $(4n - 5)(4n + 5)$

4. $36x^2 - 100y^2$
 $(6x + 10y)(6x - 10y)$

5. $49x^2 - 32$
prime

6. $16a^2 - 9b^2$
 $(4a - 3b)(4a + 3b)$

7. $225c^2 - a^2$
 $(15c - a)(15c + a)$

8. $72p^2 - 50$
 $2(6p + 5)(6p - 5)$

9. $-2 + 2x^2$
 $2(x - 1)(x + 1)$

10. $-81 + a^4$
 $(a - 3)(a + 3)(a^2 + 9)$

11. $6 - 54a^2$
 $6(1 + 3a)(1 - 3a)$

12. $8y^2 - 200$
 $8(y + 5)(y - 5)$

13. $4x^3 - 100x$
 $4x(x + 5)(x - 5)$

14. $2y^4 - 32y^2$
 $2y^2(y + 4)(y - 4)$

15. $8m^3 - 128m$
 $8m(m + 4)(m - 4)$

16. $6x^2 - 25$
prime

17. $2a^3 - 98ab^2$
 $2a(a - 7b)(a + 7b)$

18. $18y^2 - 72y^4$
 $18y^2(1 - 2y)(1 + 2y)$

**HARD WORK
BEATS TALENT
WHEN TALENT
DOESN'T WORK
HARD.**