

Oral Exercises

Find two integers with the given sum and product.

	Example	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Sum	$1 = 3 + (-2)$	2	-3	-2	15	3	-7	1	0	2	-10
Product	$-6 = 3(-2)$	-3	-10	-15	-16	-18	-18	-30	-25	-24	-24

For each trinomial tell which two factors of the constant term have a sum equal to the coefficient of the linear term.

Sample $x^2 - 3x - 28$

Solution $(-7)(4) = -28$ and $-7 + 4 = -3$
 $\therefore -7$ and 4 are the correct factors. **Answer**

11. $z^2 + 3z - 4$

12. $z^2 - 4z - 5$

13. $c^2 - c - 6$

14. $p^2 + p - 12$

15. $y^2 - 5y - 14$

16. $r^2 - 2r - 8$

17. $x^2 + 2x - 15$

18. $u^2 - u - 2$

19. $k^2 + 8k - 9$

Written Exercises

Factor. Check by multiplying the factors. If the polynomial is not factorable, write *prime*.

A 1. $y^2 + 5y - 6$

2. $v^2 - 3v - 4$

3. $x^2 - 6x - 16$

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

5. $c^2 - 4c - 12$

6. $u^2 - 10u - 9$

7. $n^2 + 2n - 6$

8. $a^2 - 5a - 24$

9. $b^2 - 13b - 30$

10. $p^2 + 7p - 18$

11. $y^2 + 12y - 36$

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

13. $x^2 - 25x - 54$

14. $t^2 - 16t - 40$

15. $y^2 - 21y - 72$

16. $z^2 + z - 72$

17. $a^2 - ab - 42b^2$

18. $r^2 - 20rs - 44s^2$

19. $u^2 + 9uv - 70v^2$

20. $x^2 - 2xy - 63y^2$

21. $h^2 - 25hk - 54k^2$

22. $m^2 + mn - 56n^2$

23. $p^2 - 16pq - 36q^2$

24. $a^2 - 13ab - 48b^2$

Sample $1 - 10x - 24x^2$

Solution Find two factors of $-24x^2$ whose sum is $-10x$: $2x$ and $-12x$.
 $\therefore 1 - 10x - 24x^2 = (1 + 2x)(1 - 12x)$ **Answer**

B 25. $1 - 2n - 48n^2$

26. $1 + 15c - 34c^2$

27. $x^2 - 10xy - 75y^2$

28. $a^2 + 5ab - 84b^2$