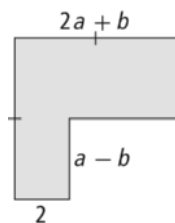


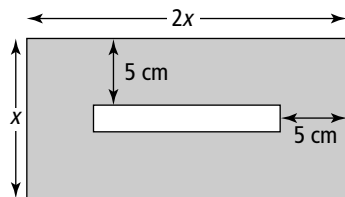
Chapter 5 Review

5.1 Multiplying Polynomials

- Draw an algebra tile diagram to model each product.
 - $(x + 6)(x - 2)$
 - $(s - 4)^2$
- Determine the product and then combine like terms.
 - $(a + 5)(a + 7)$
 - $(y + 8)(y - 8)$
 - $(2v + 4w)(5v + 6w)$
 - $(2c - 1)(2c + 1)$
 - $-2(r - 3s)(r + 3s)$
 - $-(g + 4h)^2$
- Multiply and then combine like terms.
 - $(r + 4)(r^2 - 7r - 8)$
 - ★ $3p(4p - 5)(p - 7) - 5p(6p + 2)(2p - 8)$
- Write a simplified expression to represent the area.

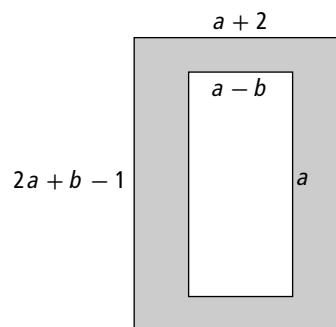


- What expression represents the area of the white rectangle?



5.2 Common Factors

- Determine the GCF of each set of terms.
 - 30 and 45
 - 84 and 112
 - $72y$, 90, and $108y$
 - $4d$ and $10d^2$
 - $34a^2b$ and $51ab$
 - $10rst$ and $15r^2s^2t^2$
- Identify the LCM of the following pairs of numbers.
 - 25 and 15
 - 32 and 128
- Identify the GCF of each set of terms.
 - 18 and 27
 - 13, 26, and 39
 - $8ab^3$ and $12a^2b$
 - $48xy^3z$ and $36x^2y^2z^4$
 - $11m^6n^5$, $-22m^3n^9$, and $14m^5n^6$
- Use algebra tiles or a diagram to factor each polynomial.
 - $2x^2 + 4x$
 - $x^2 + 3x$
- Write an expression in fully factored form for the shaded area.



5.3 Factoring Trinomials

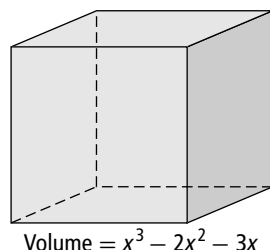
11. Use algebra tiles or a diagram to factor each trinomial.

- a) $x^2 + 2x - 8$
- b) $x^2 - 5x + 6$
- c) $2x^2 - 10x + 12$
- d) $4x^2 + 4x - 3$

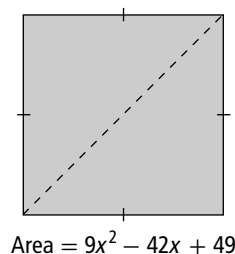
12. Factor, if possible.

- a) $x^2 - 6x + 8$
- b) $x^2 - x - 20$
- c) $9x^2 - 12x - 5$
- d) $8x^2 - 10x - 2$
- e) $-6x^2 + 45x - 81$
- f) $-12x^3 + 2x^2 + 4x$

13. Given the volume of the rectangular prism as shown in the diagram, write the algebraic expressions that represent its dimensions. Then, calculate the dimensions of the rectangular prism if $x = 5$ cm.



★14. The expression for a square field's area is as shown in the diagram. A fence borders the field, and also partitions it in half by running diagonally from corner to corner.



- a) Write a factored and simplified expression to determine the perimeter of the field.
- b) If $x = 20$ m, what is the length of the fence, to the nearest tenth of a metre?

5.4 Factoring Special Trinomials

15. Factor fully.

- a) $s^2 - 64$
- b) $d^2 - 121$
- c) $4h^2 - 25$
- d) $9n^2 - 81$
- e) $144 - 4b^2$
- f) $98c - 18cd^2$

16. Verify that each trinomial is a perfect square. Then, factor.

- a) $b^2 + 14b + 49$
- b) $144 + 24w + w^2$
- c) $16 - 24g + 9g^2$
- d) $64s^2 - 208st + 169t^2$

17. Factor fully.

- a) $81 - x^2$
- b) $10x^4y - 10y$
- c) $9x^2 + 30x + 25$
- d) $16x^2 - 100y^2$
- e) $x^4 - 16x^2 + 64$
- f) $-8x^2y - 24xy - 18y$

18. None of the following can be factored over the integers. In each case, explain why this is so.

- a) $s^2 - 12 - 36$
- b) $16m^2 + 25$
- c) $3y^2 - 30y + 25$
- d) $x^2 - 14x + 40$