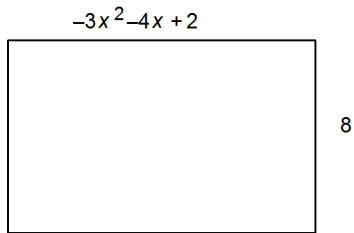


Math 9: Chapter 5.5 & 5.6 Practice

Short Answer

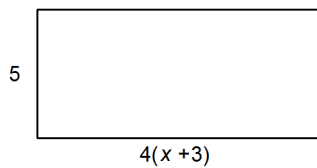
1. Determine the area of this rectangle.



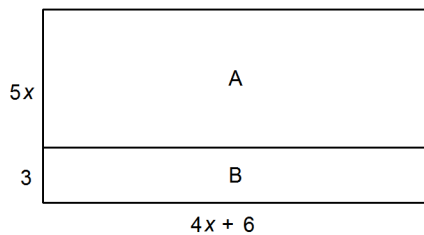
Problem

2. a) Write the multiplication sentence modelled by this rectangle.
 b) Determine the area of the rectangle when $x = 12$.

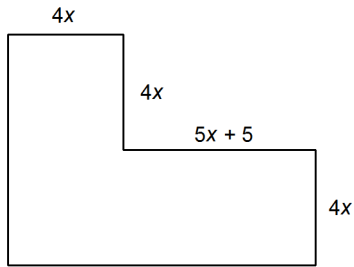
Show your work.



3. a) Write a polynomial to represent the area of rectangle A.
 b) Write a polynomial to represent the area of rectangle B.
 c) Write a polynomial to represent the total area of rectangle A and rectangle B.

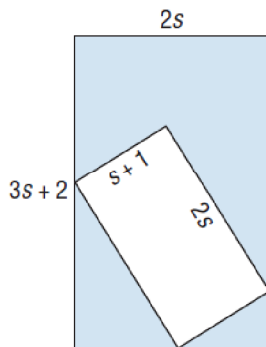


4. a) Determine a polynomial for the perimeter of the shape below.
- b) Determine a polynomial for the area of the shape below.
- c) Determine the perimeter and area when $x = 5$ cm.



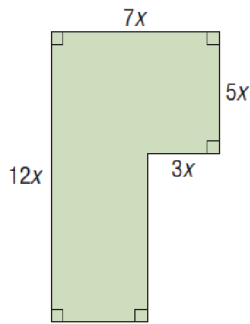
Other

- a) Write a polynomial to represent the area of each rectangle in the diagram below.



- b) Determine a polynomial for the shaded area. Justify your strategy.
 - c) Determine the area in part b when $s = 2.5$ cm.
- 5.

Determine a polynomial for the area of this shape. Justify your answer.



- 6.

Math 9: Chapter 5.5 & 5.6 Practice Answer Section

SHORT ANSWER

1. ANS:

$$-24x^2 - 32x + 16$$

PTS: 1 DIF: Moderate REF: 5.5 Multiplying and Dividing a Polynomial by a Constant
 LOC: 9.PR7 TOP: Patterns and Relations (Variables and Equations)
 KEY: Procedural Knowledge

PROBLEM

2. ANS:

$$\begin{aligned} \text{a) } & 5(4(x + 3)) \\ & = 5(4x + 12) \\ & = 20x + 60 \end{aligned}$$

b) Substitute $x = 12$ into $20x + 60$.

$$20(12) + 60 = 300$$

The area of the rectangle when $x = 12$ is 300 square units.

PTS: 1 DIF: Moderate REF: 5.5 Multiplying and Dividing a Polynomial by a Constant
 LOC: 9.PR7 TOP: Patterns and Relations (Variables and Equations)
 KEY: Problem-Solving Skills | Communication

3. ANS:

$$\begin{aligned} \text{Area of rectangle A} & = 5x(4x + 6) \\ & = 20x^2 + 30x \end{aligned}$$

$$\begin{aligned} \text{Area of rectangle B} & = 3(4x + 6) \\ & = 12x + 18 \end{aligned}$$

$$\begin{aligned} \text{Total area of rectangle A and rectangle B} & = 20x^2 + 30x + 12x + 18 \\ & = 20x^2 + 42x + 18 \end{aligned}$$

PTS: 1 DIF: Difficult
 REF: 5.6 Multiplying and Dividing a Polynomial by a Monomial
 LOC: 9.PR7 TOP: Patterns and Relations (Variables and Equations)
 KEY: Problem-Solving Skills

4. ANS:

$$\begin{aligned} \text{a) Perimeter} &= 4x + 4x + (5x + 5) + 4x + (5x + 5) + 4x + 4x + 4x \\ &= 34x + 10 \end{aligned}$$

$$\begin{aligned} \text{b) Area} &= 4x(4x) + 4x(4x + 5x + 5) \\ &= 16x^2 + 16x^2 + 20x^2 + 20x \\ &= 52x^2 + 20x \end{aligned}$$

c) Perimeter:

Substitute $x = 5$ into $34x + 10$.

$$\begin{aligned} &34x + 10 \\ &= 34(5) + 10 \\ &= 180 \end{aligned}$$

The perimeter of the shape is 180 cm.

Area:

Substitute $x = 5$ into $52x^2 + 20x$.

$$\begin{aligned} &52x^2 + 20x \\ &= 52(5)^2 + 20(5) \\ &= 1400 \end{aligned}$$

The area of the shape is 1400 cm².

PTS: 1

DIF: Difficult

REF: 5.6 Multiplying and Dividing a Polynomial by a Monomial

LOC: 9.PR7 TOP: Patterns and Relations (Variables and Equations)

KEY: Problem-Solving Skills | Communication

OTHER

5. ANS:

???

PTS: 1

6. ANS:

???

PTS: 1