

JANUARY 12, 2016

UNIT 4: POLYNOMIALS

**EXTRA PRACTICE:
PERIMETER, AREA AND
SUBSTITUTION WITH
POLYNOMIALS**

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MATH 9



HOMEWORK QUESTIONS???
("Extra Practice 5 and 6" worksheets)

↓
#4

$$3. \quad a) \quad \overbrace{2d(3d+4)} \\ = 6d^2 + 8d$$

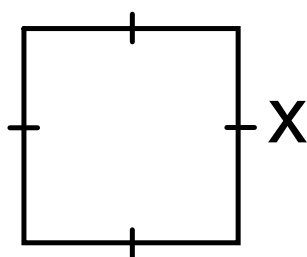
$$4. \quad a) \quad \frac{6d^2 + 8d}{2d} \\ = 3d + 4$$

REMEMBER...

$$\begin{aligned} & \mathbf{x + x} \\ & = 2x \end{aligned}$$

$$\begin{aligned} & \mathbf{x(x)} \\ & = x^2 \end{aligned}$$

REMEMBER...



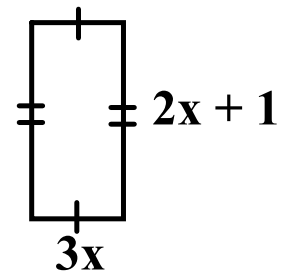
$$\begin{aligned} P &= |x + |x + |x + |x \\ &= 4(x) \\ &= 4x \end{aligned}$$

$$\begin{aligned} A &= bh \\ A &= x(x) \\ &= x^2 \end{aligned}$$

PRACTICE: PERIMETER, AREA AND SUBSTITUTION WITH POLYNOMIALS

Using the shape to the right, answer the following:

- What is the **SIMPLIFIED** polynomial that represents the **PERIMETER** of this shape?
- What is the perimeter of this shape when $x = 5$ cm?
- What is the **SIMPLIFIED** polynomial that represents the **AREA** of this shape?
- What is the area of this shape when $x = 10$ cm?



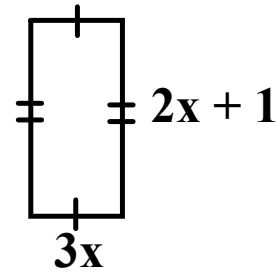
PRACTICE: PERIMETER, AREA AND SUBSTITUTION WITH POLYNOMIALS

a) Perimeter = $10x + 2$

b) Perimeter = 52 cm

c) Area = $6x^2 + 3x$

d) Area = 630 cm^2

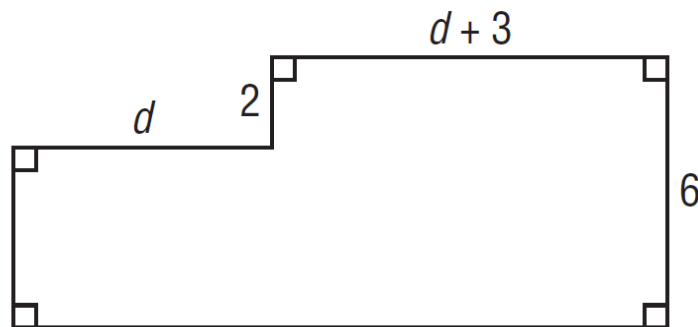


$$\begin{aligned} \text{a) } P &= 2(3x) + 2(2x + 1) \\ &= 6x + 4x + 2 \\ &= 10x + 2 \end{aligned}$$

$$\begin{aligned} \text{b) } P &= 10x + 2 \\ &= 10(5) + 2 \\ &= 50 + 2 \\ &= 52 \text{ cm} \end{aligned}$$

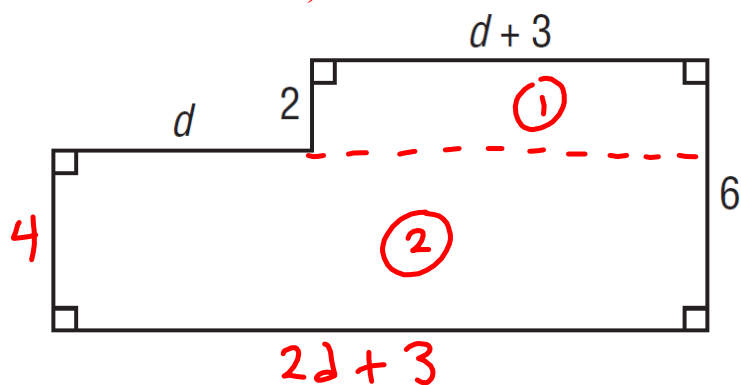
$$\begin{aligned} \text{c) } A &= bh \\ &= 3x(2x + 1) \\ &= 6x^2 + 3x \end{aligned}$$

$$\begin{aligned} \text{d) } A &= 6x^2 + 3x \\ &= 6(10^2) + 3(10) \\ &= 6(100) + 30 \\ &= 600 + 30 \\ &= 630 \text{ cm}^2 \end{aligned}$$

PERIMETER, AREA AND SUBSTITUTION WITH POLYNOMIALS

Using the shape to the above, answer the following:

- What is the **SIMPLIFIED** polynomial that represents the **PERIMETER** of this shape?
- What is the **perimeter** of this shape when $d = 3$ cm?
- What is the **SIMPLIFIED** polynomial that represents the **AREA** of this shape?
- What is the **area** of this shape when $d = 7$ cm?

PERIMETER, AREA AND SUBSTITUTION WITH POLYNOMIALS

a) Perimeter = $4d + 18$

b) Perimeter = 30 cm

c) Area = $10d + 18$

d) Area = 88 cm^2

$$\begin{aligned} \text{a) } P &= (d) + (2) + (d+3) + (6) + (2d+3) + (4) \\ &= 4d + 18 \end{aligned}$$

$$\begin{aligned} \text{b) } P &= 4d + 18 \\ &= 4(3) + 18 \\ &= 12 + 18 \\ &= 30 \text{ cm} \end{aligned}$$

$$\begin{aligned} \text{c) } A &= \textcircled{1} + \textcircled{2} \\ &= bh + bh \\ &= 2(d+3) + 4(2d+3) \\ &= (2d+6) + (8d+12) \\ &= 10d + 18 \end{aligned}$$

$$\begin{aligned} \text{d) } A &= 10d + 18 \\ &= 10(7) + 18 \\ &= 70 + 18 \\ &= 88 \text{ cm}^2 \end{aligned}$$

CONCEPT REINFORCEMENT:
WORKSHEET, #1 TO #5