## Curriculum Outcome

- ☐ (PR 5)Demonstrate an understanding of polynomials (limited to of degree less than or equal to 2).
- ☐ (PR 6) Model, record and explain the operations of addition and subtraction of polynomial expressions, concretely, pictorially and symbolically (limited to polynomials of degree less than or equal to 2).
- ☑ (PR 7) Model, record and explain the operations of multiplication and division of polynomial expressions (limited to polynomials of degree less than or equal to 2) by monomials, concretely, pictorially and symbolically.

**Student Friendly:**
**"Multiplying polynomials by a constant "**


Warm Up
Quiz

# Warm Up

| | $-6x^2 + 4x - 7$ | $3p^9 + p$ | $-7z + 4$ | $2r^5$ | $\sqrt{7x}$ |
|---|---|---|---|---|---|
| Type | | | | | |
| Coefficients | | | | | |
| Constant | | | | | |
| Variable | | | | | |
| Degree | | | | | |

2) Simplify

a) $(10b^2 - 5c^2 + 6) + (-7b^2 + 5c^2 + 8)$

b) $(16x^4t^2 + 8x^4 - 2) - (7x^4t^2 + 5x^4 - 6)$

# Warm Up

| | $-6x^2 + 4x - 7$ | $3p^9 + p$ | $-7z + 4$ | $2r^5$ | $\sqrt{7x}$ |
|---|---|---|---|---|---|
| Type | trinomial | Binomial | Binomial | Monomial | Not a polynomial |
| Coefficients | -6, 4 | 3, 1 | -7 | 2 | |
| Constant | -7 | none | 4 | none | |
| Variable | x | p | z | r | |
| Degree | 2 | 9 | 1 | 5 | |

2) Simplify

a) $(10b^2 - 5c^2 + 6) + (-7b^2 + 5c^2 + 8)$

$10b^2 - 5c^2 + 6 \quad -7b^2 + 5c^2 + 8$

$10b^2 \quad -7b^2 - 5c^2 \quad + 5c^2 + 6 + 8$

$3b^2 + 14$

b) $(16x^4t^2 + 8x^4 - 2) - (7x^4t^2 + 5x^4 - 6)$

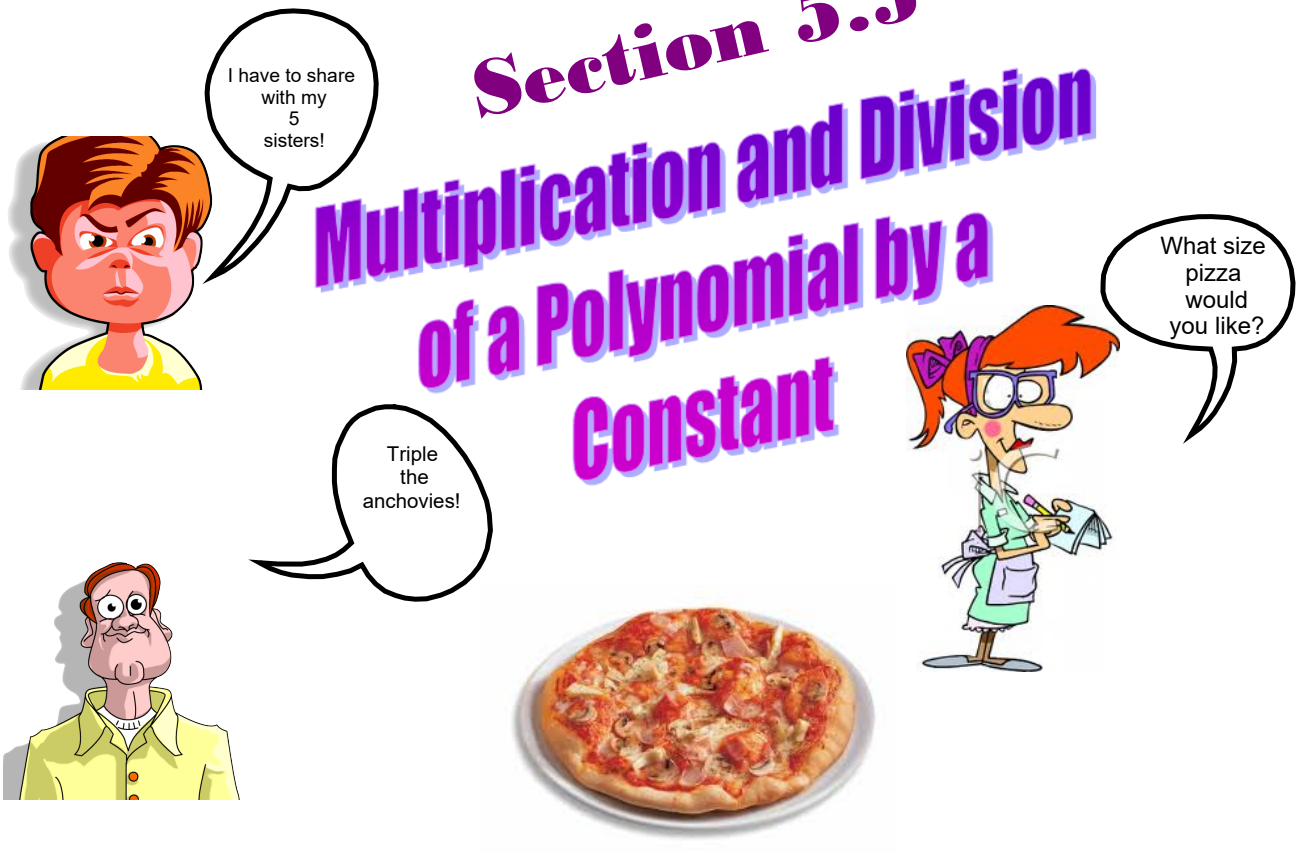
$16x^4t^2 + 8x^4 - 2 - 7x^4t^2 - 5x^4 + 6$

$16x^4t^2 - 7x^4t^2 + 8x^4 - 5x^4 - 2 \quad + 6$

$9x^4t^2 + 3x^4 \quad + 4$

# Section 5.5

# Multiplication and Division of a Polynomial by a Constant




Things you already know!!

$4 \times 5 = 20$

$(4)(5) = 20$

$4(5) = 20$

$(4)\bullet(5) = 20$

Things you need to know :)

Why didn't I use this example??

$(4)(m) =$

$6(z) =$

$(-2)(-r^3) =$

$4(-3v) =$

#1) $4(6w)$

$24w$

Hint:
Multiply each term in the brackets by the term on the outside of the brackets.

Numbers with Numbers

letters with letters

#2) $5\ (4w - 11)$

$20w - 55$

#3) $4(6w^2 - 7p + 11)$

$24w^2 - 28p + 44$


Things you already know!!

$4 \times 5 = \mathbf{20}$

$(4)(5) = \mathbf{20}$

$4(5) = \mathbf{20}$

Things we NOW know

Why didn't I use this example??

$(4)(m) = \mathbf{4m}$

$6(z) = \mathbf{6z}$

$(-2)(-r^3) = \mathbf{2r^3}$

$4(-3v) = \mathbf{-12v}$


Things you already know!!

$30 \div 3 = \mathbf{10}$

$\frac{30}{3} = \mathbf{10}$

Things you need to know :)

$60z \div 15 =$

$\frac{48m}{4} =$

$$\frac{100r^2 + 50m}{5}$$

Separate the polynomial to make a sum of fractions.

$$= \frac{100r^2}{5} + \frac{50m}{5}$$

Now Divide each term
- numbers by numbers
-letters by letters

$$= 20r^2 + 10m$$

$$(12r^2 + 24m - 9z) \div (-3)$$

$$\frac{12r^2}{(-3)} + \frac{24m}{(-3)} - \frac{9z}{(-3)}$$

$$-4r^2 - 8m + 3z$$


Things you already know!!

$30 \div 3 = \mathbf{10}$

$\frac{30}{3} = \mathbf{10}$

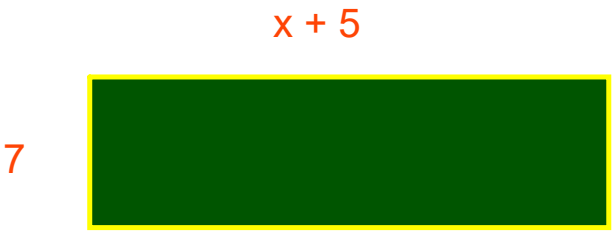
Things we NOW know :)

$60z \div 15 =$

$\frac{60z}{15} = 4z$

$\frac{48m}{4} = 12m$

Write the multiplication statement for the ***area*** of each rectangle.

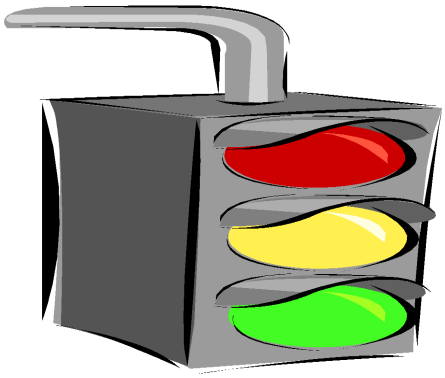



A = base x height

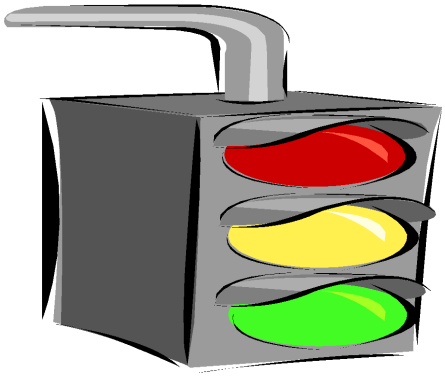
$A = (b)(h)$

$= 7(x + 5)$

$A = 7x + 35$



Now it is time for Home Learning



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## QUESTIONS

3, 5, 6,9,
11acf
12,
13ace
14
15ace
16aceg
18
22
23

**No Algebra Tiles**

**Copy the original out**