

Algebra 1

Chapter 8 Part 2 Review

Target 8-4: I can factor polynomials using the GCF (distributive property).

Target 8-5: I can factor trinomials and binomials with a leading coefficient of one using any method.

Target 8-6: I can factor trinomials and binomials with a leading coefficient greater than one using any method

(All targets are mixed together below)

Factor the following polynomials completely! Be sure to use the best method. Box your answer.

1. $8m - 6$

$2(4m - 3)$

2. $h^2 + 9h + 18$

$(h + 3)(h + 6)$

3. $2b^2 + 16 - 18b$

$2(b - 8)(b - 1)$

4. $6a^2 - 17a + 12$

$(3a - 4)(2a - 3)$

5. $x^2 - 256$

$(x - 16)(x + 16)$

6. $-6mp + 4m + 18p - 12$

$(3p - 2)(-2m + 6)$

7. $g^2 + 3g - 10$

$(g - 2)(g + 5)$

8. $16d^2 - 4$

$(4d - 2)(4d + 2)$

9. $x + x^2y + x^3y^2$

$$x(1 + xy + x^2y^2)$$

10. $-12 - 9m + 3m^2$

$$3(m-4)(m+1)$$

11. $f^3 + 2f^2 - 64f - 128$

$$(f+2)(f-8)(f+8)$$

12. $24x^2 + 108x - 60$

$$12(x+5)(2x-1)$$

Target 8-7: I can use factoring and the zero product property to solve quadratic equations.

Solve the following quadratics by factoring. Make sure to box your answers!

1. $(4y + 8)(3y - 4) = 0$

$$y = -2$$

$$y = \frac{4}{3}$$

2. $8q^2 - 10q + 3 = 0$

$$q = \frac{1}{2}$$

$$q = \frac{3}{4}$$

3. $2z^2 + 20z = 0$

$$z = 0$$

$$z = -10$$

4. $6b^2 - 5b = 4$

$$b = \frac{1}{2}$$

$$b = \frac{4}{3}$$

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5. $9x^2 = 27x$

$$x = 0$$

$$x = 3$$

6. $10r^2 - 21r = -4r + 6$

$$r = 2$$

$$r = -\frac{3}{10}$$

7. $10g^2 + 10 = 29g$

$$g = \frac{2}{5}$$

$$g = \frac{5}{2}$$

8. $15n^2 - n = 2$

$$n = \frac{2}{5} \quad n = -\frac{1}{3}$$

9. **Construction:** A construction company is planning to pour concrete for driveway. The length of the driveway is 16 feet longer than its width.

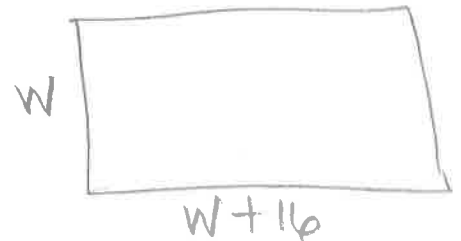
a. Draw a picture

b. Write an expression for the area of the driveway.

$$w(w+16) \quad w^2 + 16w$$

c. Find the dimensions of the driveway if it has an area of 260 square feet.

$$260 = w^2 + 16w$$

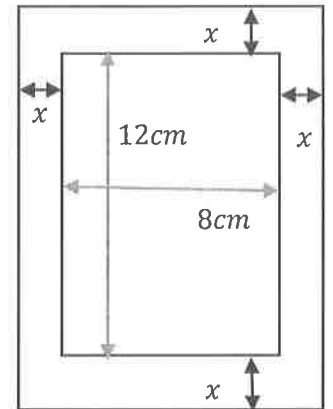


$$w = 10$$

so its 10 x 26 ft.

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10. **Picture Frame:** A picture measures 8cm by 12cm. The entire frame as an area of 140 cm^2 . What is the width of the frame.



$x = 1 \text{ cm}$
The width is 1 cm.