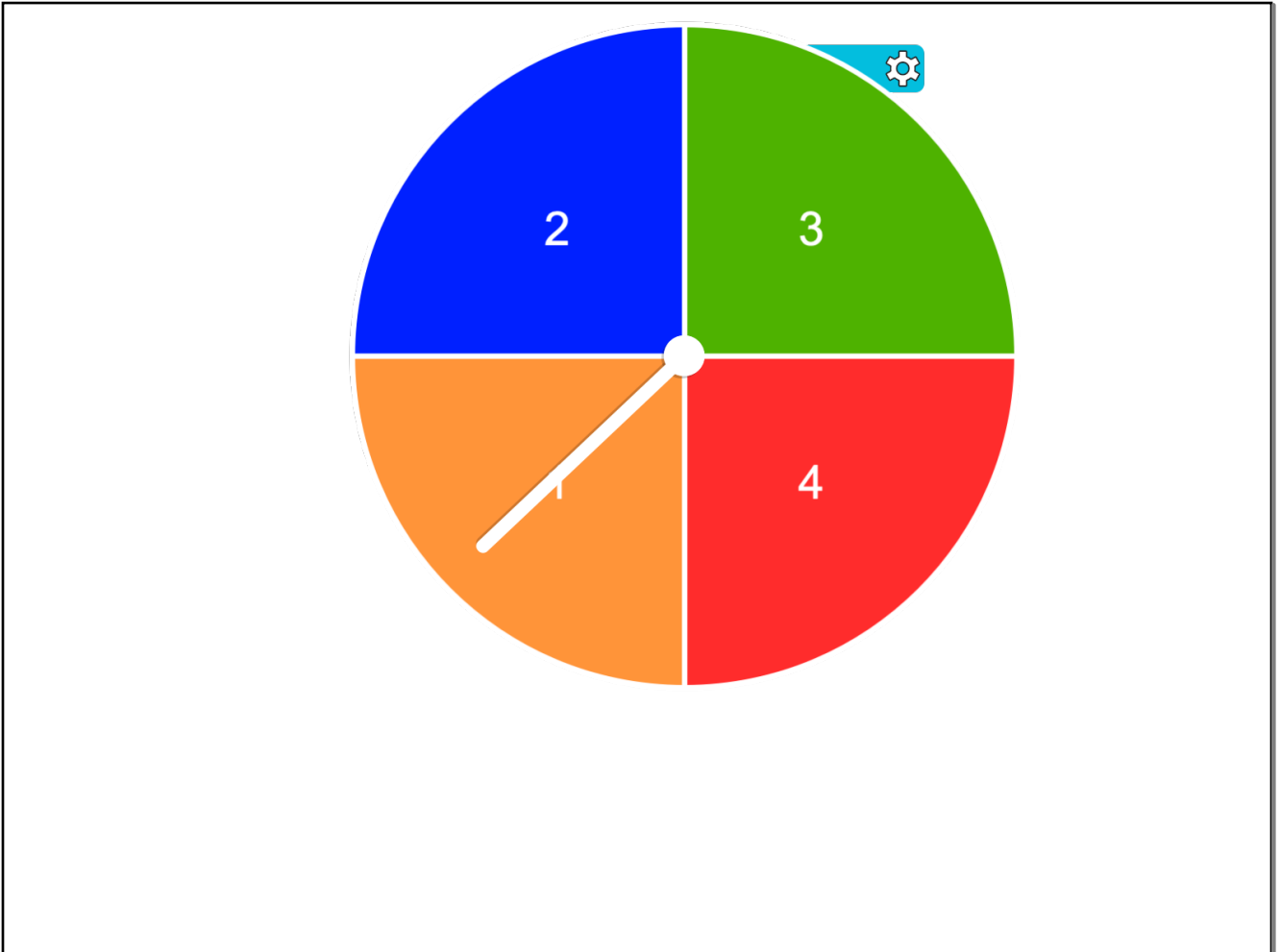


Things to look for when factoring...

- 1) Greatest monomial factor
- 2) Special products (difference of two squares, perfect square trinomials)
- 3) Factor trinomial into 2 binomials
- 4) Factor by grouping
- 5) Make sure all factors are prime



$$\frac{x^3 - 2x^2 - 11x + 22}{x^2(x-2) - 11(x-2)}$$

$$(x-2)(x^2 - 11)$$

$$-45x^2 + 150x - 125$$

$$-5(9x^2 - 30x + 25)$$

$$-5(3x - 5)^2$$

$$5(-9x^2 + 30x - 25)$$

$$5(3x - 5)(-3x + 5)$$

$$16x^2 - 36$$

$$2(2x+3) \cdot 2(2x-3)$$

$$(4x+6)(4x-6)$$

$$4(2x+3)(2x-3)$$

$$\rightarrow 4(4x^2 - 9)$$

$$4(2x+3)(2x-3)$$

$$x^2 - 6x + 9$$

$$(x - 3)^2$$

$$4x^2 + 44x + 121$$

$$(2x + 11)^2$$

$$-6x^3 - 3x^2 + 45x$$

$$-3x(2x^2 + x - 15)$$

$$-3x(2x - 5)(x + 3)$$

$$9t^2 - 54$$

$$9(t^2 - 6)$$

$$\underline{x^3 + 2x^2 - 16x - 32}$$

$$x^2(x+2) - 16(x+2)$$

$$(x+2)(x^2 - 16)$$

$$(x+2)(x+4)(x-4)$$

$$2x^3 - 162x$$

$$2x(x^2 - 81)$$

$$2x(x+9)(x-9)$$

$$x^2 - 196$$

$$x^2 + 13x + 30 = 0$$

$$x^2 - 19x + 84 = 0$$

$$2x^2 + 15x - 108 = 0$$

$$9x^2 - 9x = 28$$

$$18x^2 - 57x = -35$$

$$x^4 + 7x^3 - 8x - 56 = 0$$

$$4x^3 + 24x^2 + 36x = 0$$

ROOM DIMENSIONS A room's length is 3 feet less than twice its width. The area of the room is 135 square feet. What are the room's dimensions?

$$5y^4 - 20y^3 + 10y^2$$

$$-2x^3 + 6x^2 - 14x$$

$$x^3 + 3x^2 - 4x - 12$$

$$3y^3 - 4y^2 - 6y + 8$$

$$x^2 - 6x + 5 = 0$$

$$2x^2 - 50 = 0$$

$$8x^3 + 25x = 30x^2$$

$$25x^2 + 20x + 4 = 0$$

$$16a^2 - 1 = 0$$

