

Warm up:

Simplify.

$$1) 3x^{12} \cdot 9x^{14}$$
$$27x^{26}$$

$$2) \frac{18a^7b^4}{3a^2b}$$

$$6a^5b^3$$

$$3) 7^0$$

$$1$$

$$4) 8^{-2}$$
$$\frac{1}{64}$$

$$\frac{1}{8^2}$$

$$5) (6a^8b^3)^2$$

$$36a^{16}b^6$$

HW Solutions

23

$$m^2 n^{-1} \cdot m^{-3} n^3$$

$$m^{-1} n^2$$

25

$$-3ab \cdot 4a^{-3}b^3$$

$$-12a^{-2}b^4$$

24

$$\frac{12y^{-6}}{2y^{-10}}$$

6y⁴

$$-6 + (+10)$$

4

①8

$$4m^{-2}n^5(3m^4n^{-2})$$

$$12m^2n^3$$

①9

$$(-7a^4bc^3)(5ab^4c^2)$$

$$-35a^5b^5c^5$$

②

$$3f^{-4} \cdot 5f^2$$

$$15f^{-2}$$

③

$$-5y^3(-8y^4)$$

$$40y^9$$

Power Rules

$$x^a \cdot x^b = x^{a+b}$$

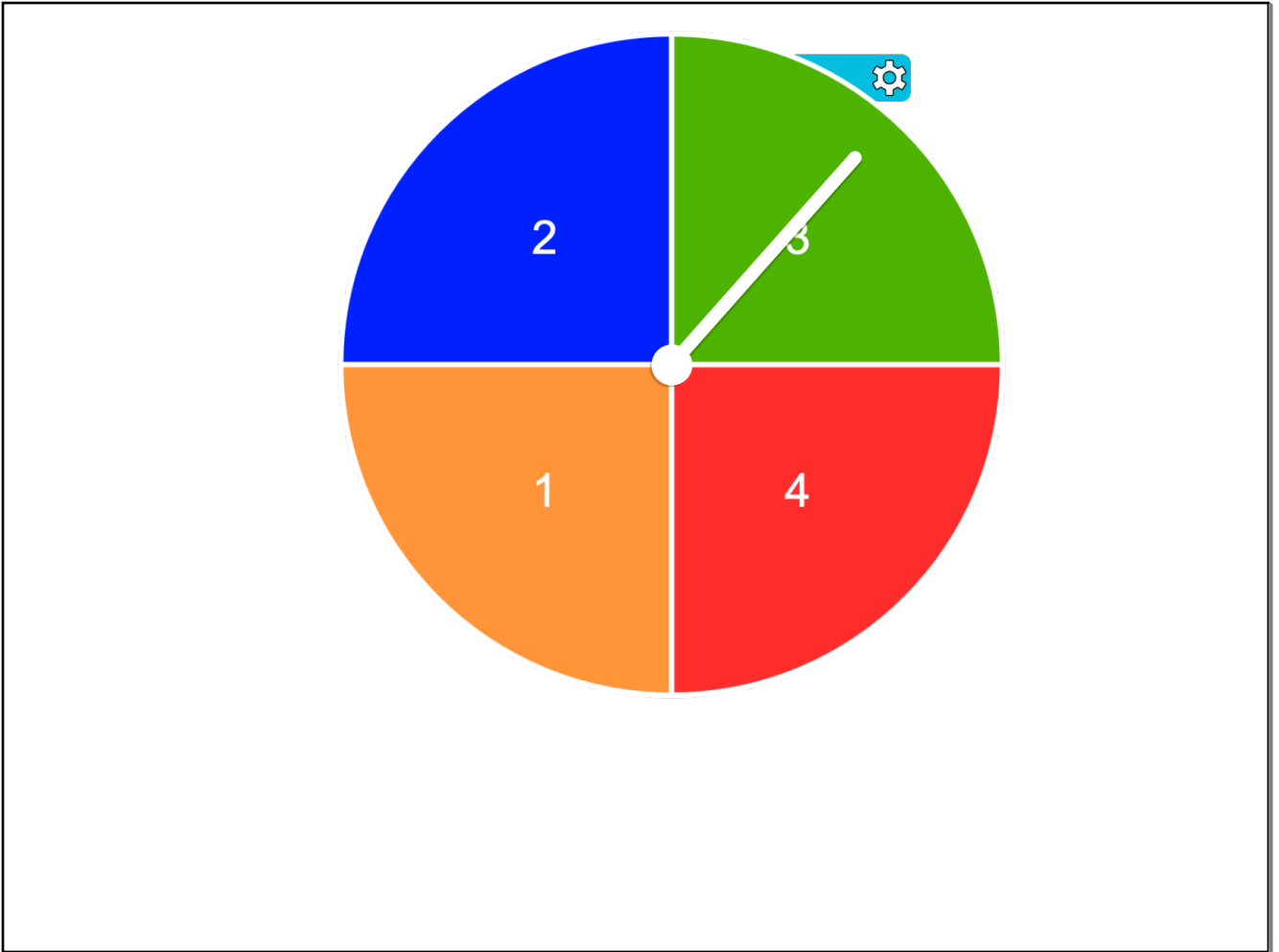
$$(x^a y^b)^c = x^{ac} y^{bc}$$

$$\frac{x^a}{x^b} = x^{a-b}$$

$$x^0 = 1$$

$$(x^a)^b = x^{ab}$$

$$x^{-n} = \frac{1}{x^n}$$



$$\frac{x^{20}}{x^2} = x^{18}$$

$$a^4 \cdot a^7$$

$$a^{11}$$

4⁰

/

Write using positive exponents.

$$n^{-5}$$

$$\frac{1}{n^5}$$

$$\left(m^3\right)^4 = m^{12}$$

$$\frac{24a^{15}}{3a^5} = 8a^{10}$$

$$\underline{12m^4} \cdot \underline{3m^6}$$

$$36m^{10}$$

$$(2x^9y^4)^3$$
$$8x^{27}y^{12}$$

$$5^{-2} = \frac{1}{5^2} = \frac{1}{25}$$

$$7a^2b^{10} \cdot 5a^3b$$
$$35a^5b^{11}$$

$$\frac{32a^{12}b^5}{2a^6b^2} = \underline{\underline{16a^6b^3}}$$

$$3^0 = 1$$

