

## Curriculum Outcome

(N1) Demonstrate an understanding of powers with integral bases (excluding base 0) and whole number exponents by: representing repeated multiplication using powers; using patterns to show that a power with an exponent of zero is equal to one; solving problems involving powers.

(N2) Demonstrate an understanding of operations on powers with integral bases (excluding base 0) and whole number exponents.

**Student Friendly:**

**"Laws of exponents :**

**What happens to the exponent when you multiply like bases?"**



## Warm Up Quiz

### Grade 9



1) Write the following as a repeated multiple and evaluate

a)  $(-3)^5$

b)  $-(-2)^3$

c)  $-(-2)^6$

d)  $-(3)^0 (-4)^3$

2) Write as a power then evaluate

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

b)  $(-5)(-5)(4)(4)(4)(4)(4)$


3) Write the following as a powers of 10:

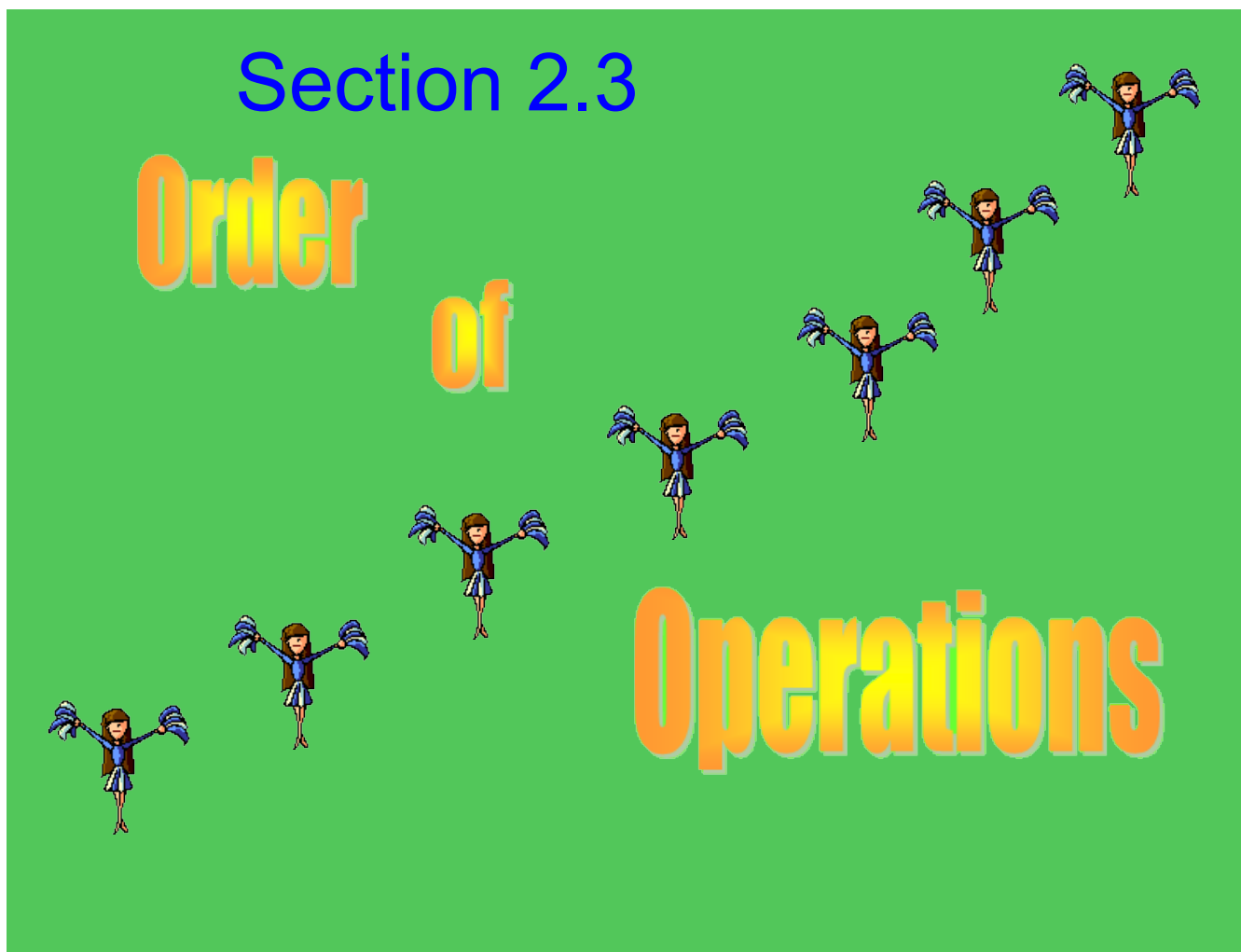
a) 68 706 324

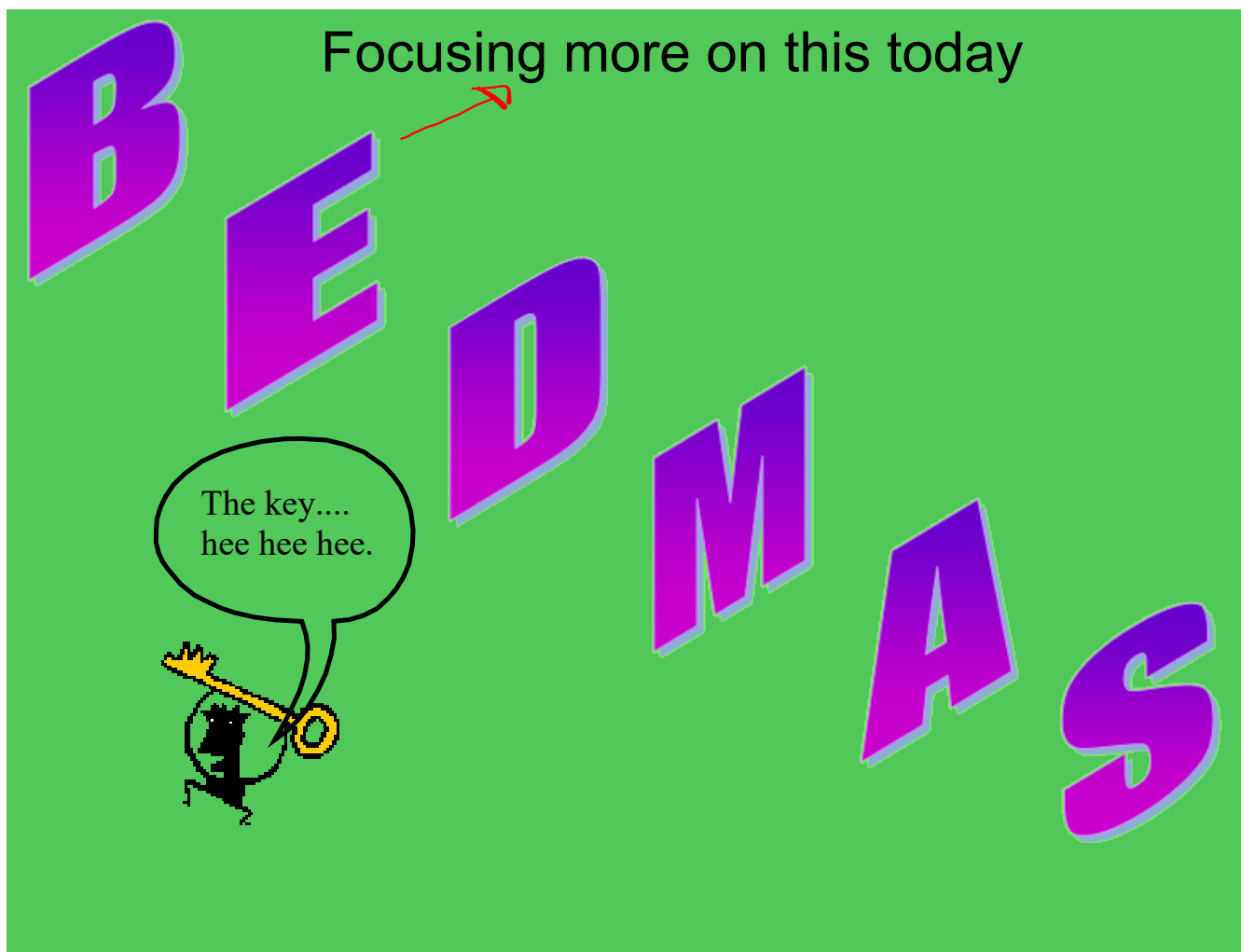
4) Write the following in standard form:

a)  $(5 \times 10^4) + (9 \times 10^2) + (7 \times 10^1) + (6 \times 10^0)$

# Any Questions From Homework???

 Day 24\_ Section 2.2\_HOmework\_ans



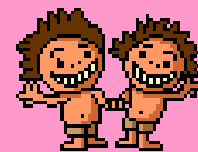




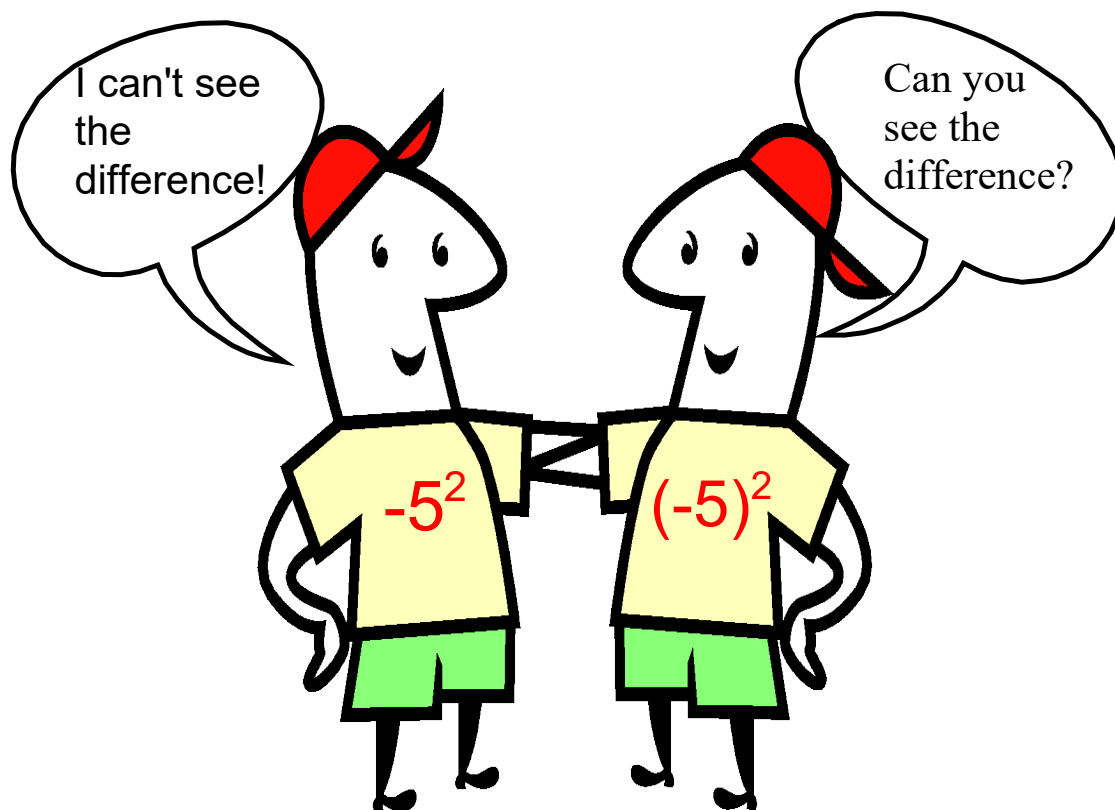
$$\frac{-15 + 3 - 13}{3 \times 2 - 7^0}$$

# Order of Operations

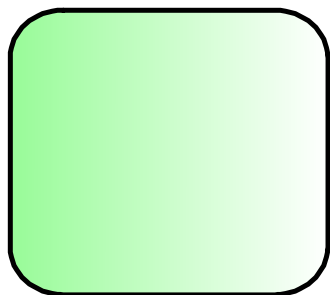
with



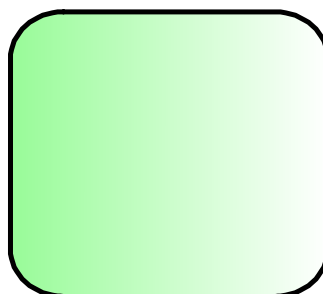
# Exponents



$$5 - 3^2$$



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

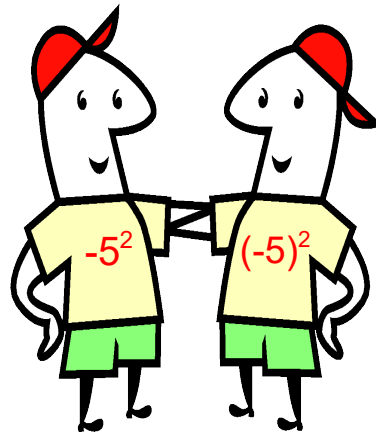




## THERE IS A **huge** DIFFERENCE!

$$\begin{aligned} & -5^2 \\ & (-1)5^2 \\ & (-1)25 \\ & -25 \end{aligned}$$

There is a negative one being multiplied by the  $5^2$ .



$$\begin{aligned} & (-5)^2 \\ & (-5)(-5) \\ & 25 \end{aligned}$$

Try These:

1.  $-4^2$



2.  $(-3)^2$



3.  $(-2)^3$



BEDMAS

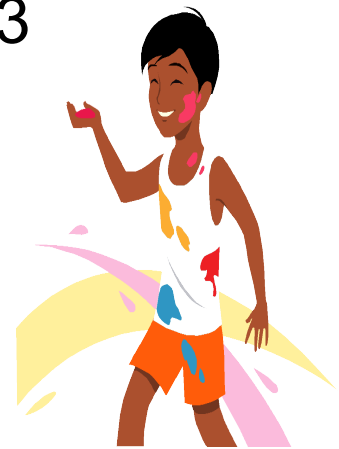


$$[3 + (-3)^0 - 5(3-7)^2] + 1$$

BEDMAS

$$-5^2 + [4 + (-2)^2 - 3]^3$$

$$[ (-4 - (-3)) ]^2 - (-5^3 + 2)^3$$



Lyn has a square swimming pool, 2 m deep with side length 4 m. The swimming pool is joined to a circular hot tub, 1 m deep with diameter 2 m. Lyn adds 690 g of chlorine to the pool and hot tub each week. This expression represents how much chlorine is present per  $1 \text{ m}^3$  of water:

$$\frac{690}{2 \times 4^2 + \pi \times 1^3}$$



The suggested concentration of chlorine is  $20 \text{ g/m}^3$  of water.

What is the concentration of chlorine in Lyn's pool and hot tub?

Is it close to the suggested concentration?

$$\frac{690}{2 \times 4^2 + \pi \times 1^3}$$

Copyright

\*Image taken from "Math Makes Sense 9", page 65, copyright to pearson education Canada

Oct 10      Class/Homework

Page 66-68

3 (a, c, e)

4 (a, c, e, )

5 (e, g)

8 (a, c, e)

10(a,c,e)

15

16(acf)

**SHOW WORK**

Oct 11 Class/Homework

Page 66-68

3 (f,h,j)

4 (d,f,g,h )

5 (b,d,f,h)

7

8 (b,d,f)

10(b,d,f)

16(bde)

19

**SHOW WORK**



If they finish early they can do these:

Page 61- 62

# 4(c, d)

#6(bd)

#8( a, c, e)

#7

#9(bdf)

#14

## Attachments

---

Day 24\_ Section 2.2\_HOmework\_ans.notebook