

**Check Your Understanding - Absolute Values, Functions and Equations**

Answer the following questions on your own paper.

**Part One – Absolute Values, Functions and Equations**

1. Rearrange the following values in ascending order. *Justify your answers.*

$$|-3.5| \quad -2.7^2 \quad \left|-\frac{5}{2^2}\right| \quad \frac{|-5.6|}{-2} \quad -|(-2)|$$

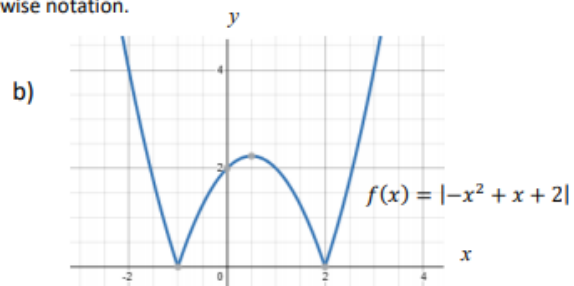
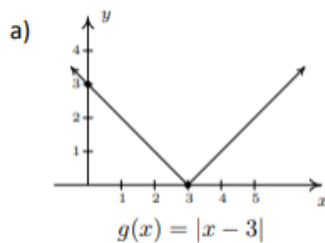
2. Evaluate. *Show your work.*

a)  $-8|5 - (2 \cdot 5)| + 7$

b)  $4 - \left|3(-2)^2 - 7(-4) - 12 + \frac{6^2}{-9}\right|$

c)  $\frac{2|3 \cdot 2^2 - 1| - 10| - 3|}{6}$

3. Write the following absolute functions using piecewise notation.



4. Given:  $f(x) = |-x^2 - 2x + 24|$

- Graph and **highlight** the absolute value function on the graph paper provided.
- State the  $x$  - and  $y$  -intercepts, domain and range of the absolute value function.
- Express  $f(x) = |-x^2 - 2x + 24|$  using piecewise notation.

5. Solve the following absolute value equations. *Verify your solutions.*

a)  $-5|x + 1| + 2 = 12$

b)  $2|x + 9| - 4 = 12$

c)  $|x - 5| = x^2 - 8x + 15$