

## Topic 5+ Practice WS

Lessons 1.1, 1.7, 5.1, 5.2, 5.4

### Lesson 1.1 – Number classifications

Identify all number classifications (natural, whole, integer, rational, real) for each the following.

a.  $-21$

b.  $13$

c.  $\sqrt{10}$

d.  $\frac{2}{7}$

### Lesson 1.7 – Solving absolute value equations

Solve each of the following absolute value equations.

a.  $|x+9|=2$

b.  $-2|x|+5=13$

c.  $|x+1|+1=6$

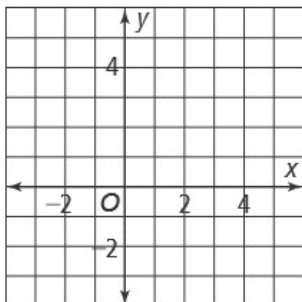
d.  $-|x+5|-11=-15$

### Lesson 5.1 – Graphing absolute value equations

Graph each of the following absolute value equations AND identify the domain and range.

a.

$$h(x) = 4|x|$$

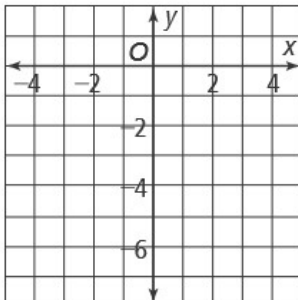


Domain:

Range:

b.

$$f(x) = -2|x|$$

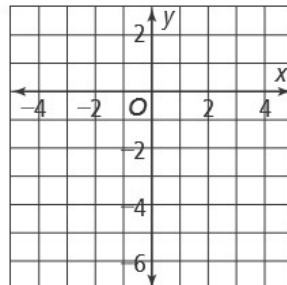


Domain:

Range:

c.

$$g(x) = \frac{1}{4}|x|$$



Domain:

Range:

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### Lesson 5.2 – Absolute value functions as piecewise functions

Write each of the following absolute value functions as a piecewise-defined function.

a.  $f(x) = \frac{1}{2}|x|$

b.  $f(x) = -6|x|$

c. Write a piecewise-defined function to represent the price of a frozen yogurt in the following scenario:

*Winslow's frozen yogurt parlor charges customers based on the weight of their cup. Cups weighing up to 6 ounces cost \$1.75 per ounce. Cups weighing less than 16 ounces cost \$1.50 per ounce. Any cups that weigh 16 ounces or more cost \$1 per ounce but are also charged a \$2.50 excessive portion fee.*

### Lesson 5.4 – Transforming absolute value functions

Identify the vertex, axis of symmetry, and transformations for each of the following functions.

a.  $f(x) = \frac{1}{2}|x+8|$

b.  $g(x) = |x-5|-9$

c.  $h(x) = -2|x|+3$

Vertex: \_\_\_\_\_

Vertex: \_\_\_\_\_

Vertex: \_\_\_\_\_

Axis of Symmetry: \_\_\_\_\_

Axis of Symmetry: \_\_\_\_\_

Axis of Symmetry: \_\_\_\_\_

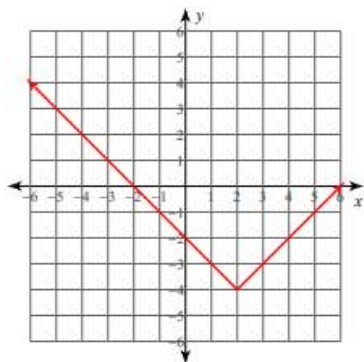
Transformations: \_\_\_\_\_

Transformations: \_\_\_\_\_

Transformations: \_\_\_\_\_

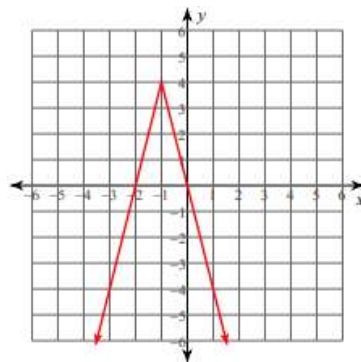
Write a function for each of the following absolute value graphs:

d.



Function: \_\_\_\_\_

e.



Function: \_\_\_\_\_