Using Linear and Absolute Value Functions
Lesson Quiz

1 What is the vertex of the function $f(x) = -2|2x - 1| - 4$?

A $(0, -6)$

B $\left(\dfrac{3}{2}, 0\right)$

C $(0.5, -4)$

D $\left(-\dfrac{1}{2}, 0\right)$

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2 Which of the data sets below could best be represented by a linear function?

A

x	y
-3	-1
-2	1
-1	3
0	5
1	7
2	9
3	11

C

x	y
-3	23
-2	13
-1	7
0	5
1	7
2	13
3	23

B

x	y
-3	11
-2	9
-1	7
0	5
1	7
2	9
3	11

D

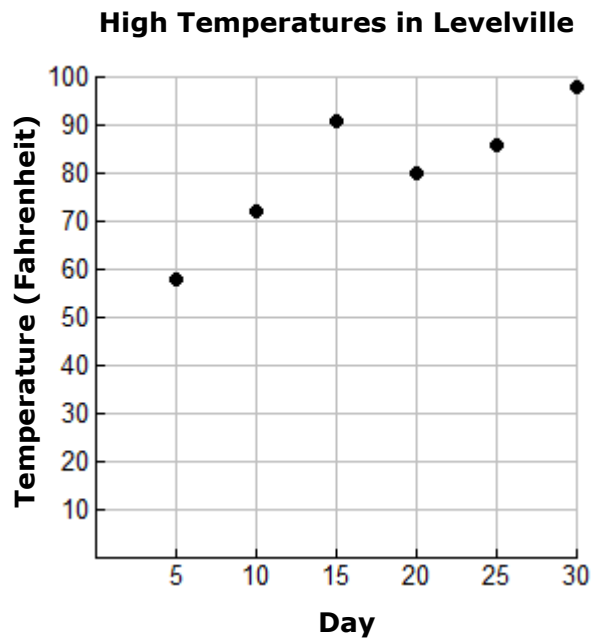| x	y
-3	7
-2	5
-1	3
0	5
1	7
2	9
3	11

3 Which of the following best describes the solution(s) to the equation $|0.5(2x - 7.8)| = 9$

    A $x = -12.9, 5.1$

    B $x = -5.1, 12.9$

    C $x = -1.2, 16.8$

    D $x = -16.8, 1.2$

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4 The graph below shows the high temperatures recorded one April in Levelville.

High Temperatures in Levelville

Based on the patterns in the data, which of the following is the best estimate for the high temperature on April 12?

    A   60°F

    B   70°F

    C   80°F

    D   100°F

5 A manufacturer prints international size A5 paper. According to manufacturing standards, the allowable dimensions for size A5 paper are found using the inequailty $|w - 148| \leq 1.5$. Which of the following best represents the possible dimensions for a sheet of size A5 paper?

A $146.5 \leq w \leq 149.5$

B $146.5 < w < 149.5$

C $w \leq 146.5$ or $w \geq 149.5$

D Not here

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6 The South Plains Telephone Company has a cafeteria in which employees can purchase lunch. Benjamin placed money on a debit card that he uses exclusively to pay for lunch. The table shows the balance on his card, y, after purchasing x lunches.

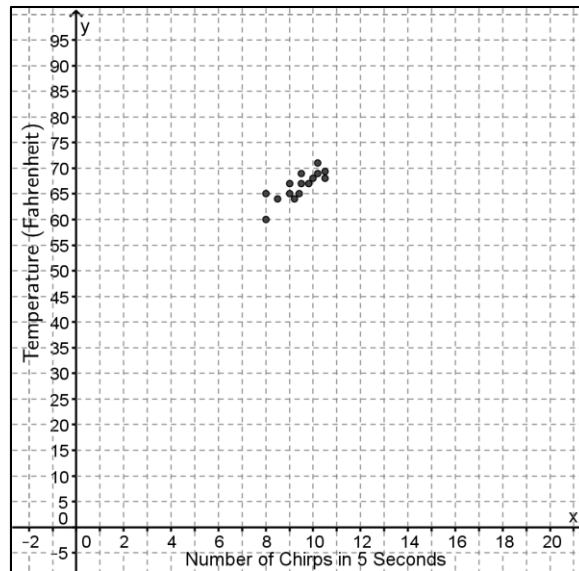| x	y
2	105
4	92
5	84
6	78
8	61
10	44

Which equation below best represents the data shown in the table?

A $y = |-7.5x + 120|$

B $y = -6.5x + 118$

C $y = -7x + 105$

D $y = -7.66x + 122$

7 During a recent storm, the amount of rainfall in inches per hour, r, after t hours of rainfall was represented by the function $r = 0.5|t - 1|$. At what time was the rainfall rate 0.25 inches per hour?

    A 0.5 hours after the rainfall began.

    B 0.5 hours and 1.5 hours after the rainfall began.

    C 1 hour after the rainfall began.

    D 0 hours and 2 hours after the rainfall began.

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8 The scatteplot below represnets the air temperature in degrees Fahrenheith for a certain number of cricket chirps every 5 seconds.

Based on the data, at what temperature will crickets stop chirping?

    A 0°F

    B 20°F

    C 32°F

    D 40°F

9 Which of the following best represents the solution to the equation $|2x - 8| = 10$?

    A $x = 0, 9$

    B $x = -1, 9$

    C $x = 1, -9$

    D $x = 0, -9$

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10 As Edwina drives by a library, the distance between Edwina and the library changes as shown in the table.

Time, x	Distance, y
0	300
1	200
2	100
3	0
4	100
5	200
6	300

Which of the following equations best describes the relationship between the time that Edwina has driven and the distance between her and the library?

    A $y = |x + 3|$

    B $y = |100x + 300|$

    C $y = |-100x + 300|$

    D $y = |x - 3|$