

## Algebra 1-Self Test Answers

$$9 \cdot 4 + 9 \cdot 6 = 9 \cdot 10;$$

$$9 \cdot 4 + 9 \cdot 7 = 9 \cdot 11;$$

$$9 \cdot 4 + 9 \cdot 8 = 9 \cdot 12$$

1a)

Generally, for any  $x$ ,

$$9 \cdot 4 + 9 \cdot x = 9 \cdot (x + 4)$$

1b)

2) Sample:  $3 \cdot 17 = 17 \cdot 3$

3)  $3x \div 7y = 3x \cdot \frac{1}{7y}$

4) The total cost for the jerseys is the cost of a single jersey times the number of jerseys plus the cost of a single T-shirt time the number of T-shirts, so Total Cost =  $179j + 24t$  dollars

5a)

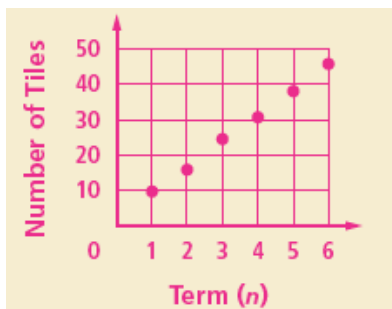
$n$	$\frac{6n-12}{3}$	$-4 + 2n$
-5	? <b>-14</b>	? <b>-14</b>
-3	? <b>-10</b>	? <b>-10</b>
0	? <b>-4</b>	? <b>-4</b>
2	? <b>0</b>	? <b>0</b>

5b) Yes. For all values on this table, the two expressions are equal.

6a)  $10 + 7 + 7 + 7 = 31$  tiles

6b) 24, 31, 38, 45

6c) The original design has 10 tiles, and each  $n$ th term has an additional  $(n - 1) \cdot 7$  which simplifies to  $7n + 3$



6d)

7a) Sample: if  $m$  is 0 then expression 1 is 1.5 and expression 2 is .75

7b)  $\frac{m+3}{2}$

8a) They appear to be equivalent

8b) No. If  $x=1$  then expression 1 is 3.01 and expression 2 is 3.

9a) 3

9b) 3, 2, 1, 2, 3, 4

9c) B

10) Samples: Xmin: -2, Xmax: 20

Ymin: -20, Ymax: 2

11) skewed left

12)

$$\mu = \frac{6+7+9+8+10+2+7+10+10+9+8+8+9+9+10}{15}$$

$$= \frac{1(2) + 1(6) + 2(7) + 3(8) + 4(9) + 4(10)}{15}$$

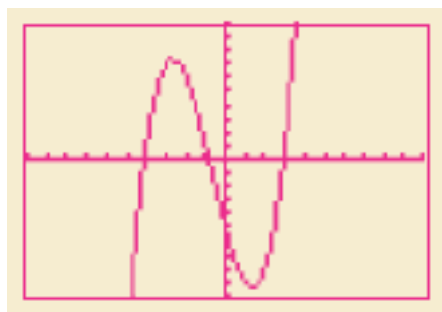
$$\approx 8.1$$

$$\text{m.a.d.} = \frac{|2-\mu| + |6-\mu| + 2|7-\mu| + 3|8-\mu| + 4|9-\mu| + 4|10-\mu|}{15}$$

$$= \frac{6.1 + 2.1 + 2(1.1) + 3(0.1) + 4(0.9) + 4(1.9)}{15}$$

$$\approx 1.5$$

13) The m.a.d. is what determines the spread, and because we have a lower m.a.d. in the original data set, there is less spread in the original set.



14a)

14b) Sample: Xmin: -4, Xmax: -1

Ymin: 3, Ymax: 8