

**A.CED.A.2: Modeling Linear Equations**

- 1 The width of a rectangle is 4 less than half the length. If  $\ell$  represents the length, which equation could be used to find the width,  $w$ ?

1)  $w = \frac{1}{2}(4 - \ell)$

2)  $w = \frac{1}{2}(\ell - 4)$

3)  $w = \frac{1}{2}\ell - 4$

4)  $w = 4 - \frac{1}{2}\ell$

- 2 The table below represents the number of hours a student worked and the amount of money the student earned.

Number of Hours ( $h$ )	Dollars Earned ( $d$ )
8	\$50.00
15	\$93.75
19	\$118.75
30	\$187.50

Write an equation that represents the number of dollars,  $d$ , earned in terms of the number of hours,  $h$ , worked. Using this equation, determine the number of dollars the student would earn for working 40 hours.

- 3 Sandy programmed a website's checkout process with an equation to calculate the amount customers will be charged when they download songs. The website offers a discount. If one song is bought at the full price of \$1.29, then each additional song is \$.99. State an equation that represents the cost,  $C$ , when  $s$  songs are downloaded. Sandy figured she would be charged \$52.77 for 52 songs. Is this the correct amount? Justify your answer.

**A.CED.A.2: Modeling Linear Equations****Answer Section**

1 ANS: 3 REF: 011413ia

2 ANS:

$$d = 6.25h, 250. \quad d = 6.25(40) = 250$$

REF: 010933ia

3 ANS:

$$C = 1.29 + .99(s - 1) \quad \text{No, because } C = 1.29 + .99(52 - 1) = 51.78$$

REF: 011730ai