

### A.SSE.A.1: Modeling Expressions 2

- 1 Which expression represents "5 less than twice  $x$ "?
  - 1)  $2x - 5$
  - 2)  $5 - 2x$
  - 3)  $2(5 - x)$
  - 4)  $2(x - 5)$
- 2 A correct translation of "six less than twice the value of  $x$ " is
  - 1)  $2x < 6$
  - 2)  $2x - 6$
  - 3)  $6 < 2x$
  - 4)  $6 - 2x$
- 3 Which algebraic expression represents 15 less than  $x$  divided by 9?
  - 1)  $\frac{x}{9} - 15$
  - 2)  $9x - 15$
  - 3)  $15 - \frac{x}{9}$
  - 4)  $15 - 9x$
- 4 When translated into symbols, "three less than half of a number" is
  - 1)  $3 - \frac{1}{2}x$
  - 2)  $\frac{1}{2}x - 3$
  - 3)  $3 < \frac{1}{2}x$
  - 4)  $\frac{1}{2}x < 3$
- 5 Which verbal expression represents  $2(n - 6)$ ?
  - 1) two times  $n$  minus six
  - 2) two times six minus  $n$
  - 3) two times the quantity  $n$  less than six
  - 4) two times the quantity six less than  $n$
- 6 Which verbal expression is represented by  $\frac{1}{2}(n - 3)$ ?
  - 1) one-half  $n$  decreased by 3
  - 2) one-half  $n$  subtracted from 3
  - 3) the difference of one-half  $n$  and 3
  - 4) one-half the difference of  $n$  and 3
- 7 Which verbal expression can be represented by  $2(x - 5)$ ?
  - 1) 5 less than 2 times  $x$
  - 2) 2 multiplied by  $x$  less than 5
  - 3) twice the difference of  $x$  and 5
  - 4) the product of 2 and  $x$ , decreased by 5
- 8 Which verbal expression is represented by  $2(x + 4)$ ?
  - 1) twice the sum of a number and four
  - 2) the sum of two times a number and four
  - 3) two times the difference of a number and four
  - 4) twice the product of a number and four
- 9 Mr. Turner bought  $x$  boxes of pencils. Each box holds 25 pencils. He left 3 boxes of pencils at home and took the rest to school. Which expression represents the total number of pencils he took to school?
  - 1)  $22x$
  - 2)  $25x - 3$
  - 3)  $25 - 3x$
  - 4)  $25x - 75$
- 10 Marie currently has a collection of 58 stamps. If she buys  $s$  stamps each week for  $w$  weeks, which expression represents the total number of stamps she will have?
  - 1)  $58sw$
  - 2)  $58 + sw$
  - 3)  $58s + w$
  - 4)  $58 + s + w$

- 11 Tim ate four more cookies than Alice. Bob ate twice as many cookies as Tim. If  $x$  represents the number of cookies Alice ate, which expression represents the number of cookies Bob ate?
- 1)  $2 + (x + 4)$
  - 2)  $2x + 4$
  - 3)  $2(x + 4)$
  - 4)  $4(x + 2)$
- 12 Timmy bought a skateboard and two helmets for a total of  $d$  dollars. If each helmet cost  $h$  dollars, the cost of the skateboard could be represented by
- 1)  $2dh$
  - 2)  $\frac{dh}{2}$
  - 3)  $d - 2h$
  - 4)  $d - \frac{h}{2}$
- 13 Marcy determined that her father's age is four less than three times her age. If  $x$  represents Marcy's age, which expression represents her father's age?
- 1)  $3x - 4$
  - 2)  $3(x - 4)$
  - 3)  $4x - 3$
  - 4)  $4 - 3x$
- 14 If Angelina's weekly allowance is  $d$  dollars, which expression represents her allowance, in dollars, for  $x$  weeks?
- 1)  $dx$
  - 2)  $7dx$
  - 3)  $x + 7d$
  - 4)  $\frac{d}{x}$
- 15 Which expression represents the number of hours in  $w$  weeks and  $d$  days?
- 1)  $7w + 12d$
  - 2)  $84w + 24d$
  - 3)  $168w + 24d$
  - 4)  $168w + 60d$
- 16 Jose wants to ride his bike a total of 50 miles this weekend. If he rides  $m$  miles on Saturday, which expression represents the number of miles he must ride on Sunday?
- 1)  $m - 50$
  - 2)  $m + 50$
  - 3)  $50 - m$
  - 4)  $50m$
- 17 Owino gets paid \$280 per week plus 5% commission on all sales for selling electronic equipment. If he sells  $n$  dollars worth of electronic equipment in one week, which algebraic expression represents the amount of money he will earn that week?
- 1)  $280n + 5$
  - 2)  $280n + 0.05$
  - 3)  $280 + 0.05n$
  - 4)  $280 + 5n$
- 18 Julie has three children whose ages are consecutive odd integers. If  $x$  represents the youngest child's age, which expression represents the sum of her children's ages?
- 1)  $3x + 3$
  - 2)  $3x + 4$
  - 3)  $3x + 5$
  - 4)  $3x + 6$
- 19 What is the perimeter of a regular pentagon with a side whose length is  $x + 4$ ?
- 1)  $x^2 + 16$
  - 2)  $4x + 16$
  - 3)  $5x + 4$
  - 4)  $5x + 20$
- 20 The length of a rectangular room is 7 less than three times the width,  $w$ , of the room. Which expression represents the area of the room?
- 1)  $3w - 4$
  - 2)  $3w - 7$
  - 3)  $3w^2 - 4w$
  - 4)  $3w^2 - 7w$

**A.SSE.A.1: Modeling Expressions 2****Answer Section**

1 ANS: 1 REF: 061301ia

2 ANS: 2 REF: 081215ia

3 ANS: 1 REF: 081110ia

4 ANS: 2 REF: 061617ia

5 ANS: 4 REF: fall0729ia

6 ANS: 4 REF: 061016ia

7 ANS: 3 REF: 061119ia

8 ANS: 1 REF: 011311ia

9 ANS: 4

$$25(x - 3) = 25x - 75$$

REF: 060823ia

10 ANS: 2 REF: 081305ia

11 ANS: 3 REF: 011104ia

12 ANS: 3 REF: 011205ia

13 ANS: 1 REF: 061204ia

14 ANS: 1 REF: 011303ia

15 ANS: 3 REF: 061323ia

16 ANS: 3 REF: 011507ia

17 ANS: 3 REF: 061519ia

18 ANS: 4

$$x + x + 2 + x + 4 = 3x + 6$$

REF: 011430ia

19 ANS: 4

$$5(x + 4) = 5x + 20$$

REF: 081013ia

20 ANS: 4

$$A = lw = (3w - 7)(w) = 3w^2 - 7w$$

REF: 010924ia