**CHAPTER 1**

# Chapter Test B

*For use after Chapter 1*

**Evaluate the expression.**

**Answers**

**1.** $34.5x$ when $x = 4$

**2.** $\frac{1}{3}y$ when $y = \frac{9}{10}$

**Evaluate the power.**

**3.** $5^4$

**4.** $1^7$

**5.** $\left(\frac{1}{2}\right)^5$

**6.** You can convert temperatures in degrees Fahrenheit to degrees Celsius by using the expression $\frac{9}{5}C + 32$, where $C$ is the temperature (in degrees Celsius). Convert 35°C to degrees Fahrenheit.

**Evaluate the expression.**

**7.** $16 \div (4 - 2) - 3$

**8.** $3\left[15 - (2^3 - 6)^2\right]$

**Evaluate the expression for the given values of the variables.**

**9.** $3m - n$ when $m = 5$ and $n = 4$

**10.** $2u^2 + v$ when $u = 3$ and $v = 7$

**11.** A rectangular box is created by cutting out squares of equal sides of lengths $x$ from a piece of cardboard 10 inches by 15 inches and folding up the sides as shown in the figure. The volume of the box is given by $V = x(10 - 2x)(15 - 2x)$. Find the volume of the box when the side length of the square is 3 inches.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____
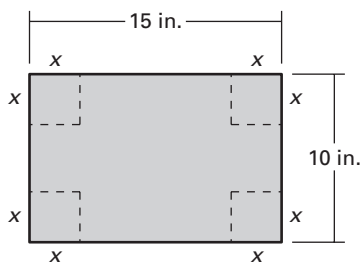


**Write an algebraic expression, an equation, or an inequality.**

**12.** The quotient of the square of a number $t$ and 14

**13.** Amount you earn if you make 6.5 dollars an hour for $h$ hours

**14.** The product of 6 and the quantity 2 more than a number $x$ is at least 45.

**15.** The sum of 4 and the quotient of a number $k$ and 9 is 12.

| CHAPTER 1 | **Chapter Test B** *continued* |
|---|---|
| | *For use after Chapter 1* |

**Check whether the given number is a solution of the equation or the inequality.**

*Answers*

**16.** $7z + 8 > 20$; 2

**17.** $\frac{r}{5} + 15 = 20$; 25

**18.** A carpet outlet advertises a price of $470.40 to carpet a 12-foot by 16-foot room. If a customer was given a price of $725.20 for carpeting a room that is 16 feet wide, what is the length of the room?

**Write a rule for the function.**

**19.**

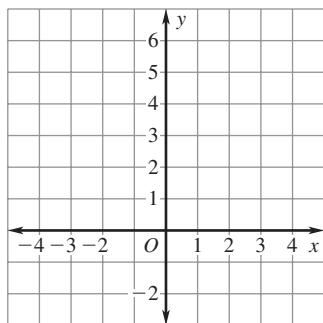| Input, *x* | 1 | 3 | 5 | 7 |
|---|---|---|---|---|
| Output, *y* | 2 | 6 | 10 | 14 |

**20.**

| Input, *x* | 12 | 15 | 18 | 21 |
|---|---|---|---|---|
| Output, *y* | 4 | 5 | 6 | 7 |

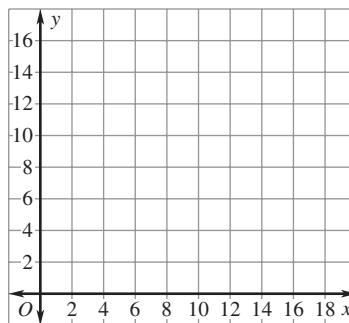**Find the range of the function. Then graph the function.**

**21.** $y = \frac{1}{2}x + 3$

Domain: 0, 1, 2, 3, 4

**22.** $y = x - 6$

Domain: 10, 12, 14, 16, 18

16. _____

17. _____

18. _____

19. _____

20. _____

21. _____

_____

See left.
_____

22. _____

_____

See left.
_____