Name_____ Date_____

## Chapter 1  Test B

**Solve the equation. Justify each step.**

*Answers*

**1.** $x + \dfrac{2}{3} = \dfrac{5}{6}$

**2.** $w - 8 = 12$

**Solve the equation. Determine whether the equation has *one solution*, *no solution*, or *infinitely many solutions*.**

**3.** $6m = -72$

**4.** $\dfrac{n}{3} = 15$

**5.** $5 + 2y = -13 + 2y$

**6.** $4h - 6 = 12$

**7.** $5 - k = 8 - k - 3$

**8.** $3x + 5 - 2x + 10 - x = 0$

**9.** $6(3 - d) + 2d = 24$

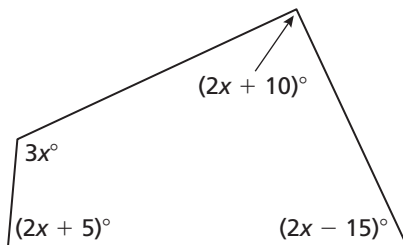**10.** $\dfrac{1}{4}w + \dfrac{1}{2}w + 5 = 11$

**Describe the value of *c* for which the equation is an identity.**

**11.** $2(x + 5) = 2(x + 3) + c$

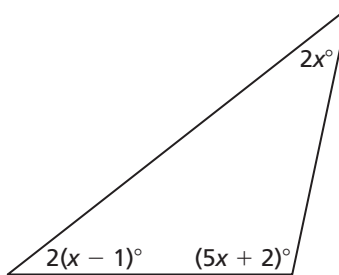**12.** $|2x + 5| = |cx + 3 - 4x + 2|$

**Find the value of the variable. Then find the angle measures of the polygon.**

**13.**



Sum of angle measures: $360°$

**14.**



Sum of angle measures: $180°$

**Solve the equation.**

**15.** $2n - 3 = 6n + 9$

**16.** $\dfrac{1}{2}(6x + 2) = 5(x + 3)$

**17.** $\dfrac{2}{3}(w + 12) = 3w - 6$

**18.** $|m + 8| = 12$

**19.** $|5y + 2| = 7y$

**20.** $|4k + 5| = |3k - 2|$

**Answers**

1. _____

   _____

2. _____

   _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

   _____

14. _____

   _____

15. _____

16. _____

17. _____

18. _____

19. _____

20. _____

### Chapter 1 Test B (continued)

**Solve the literal equation for *y*.**

**Answers**

**21.** $3x + 2y = 12$

**22.** $7x - 4y = 3y - 14$

21. _____

22. _____

**23.** The volume *V* of a cone is given by the formula $V = \frac{1}{3}\pi r^2 h$, where *r* is the radius of the base and *h* is the height.

23. a._____

    b._____

  **a.** Solve the formula for height *h*.

  **b.** A cone has a volume of $120\pi$ cubic centimeters and a radius of 6 centimeters. What is the height of the cone?

24. _____

_____

**24.** A rectangular garden has a length that is five less than twice the width. The garden perimeter is 50 meters. What are the dimensions of the garden?

25. _____

26. _____

**25.** A necklace chain costs $15. Beads cost $2.75 each. You spend a total of $28.75 on a necklace and beads before tax. How many beads did you buy in addition to the necklace?

_____

_____

**26.** Consider the equation $\left|\frac{1}{4}x + 12\right| = \frac{x}{2}$. Without calculating, how do you know $x = -16$ is an extraneous solution?

27. a._____

    b._____

**27.** Your soccer team wants to buy T-shirts. You call two different companies about prices. Each company charges a price per T-shirt and a set-up fee to create the team logo.

  **a.** The total cost is the same for each company. How many T-shirts is the team buying?

| | Logo set-up fee | Price per T-Shirt |
|---|---|---|
| **Company A** | $50 | $15 |
| **Company B** | $95 | $12 |

  **b.** A few players decide not to get T-shirts. Which company has a lower cost?