

Section 2.8 – Chapter Summary

Problem Set 1

Write a mathematical expression for each statement using an appropriate variable.

1. the quotient of a number and fourteen
2. a number subtracted from seven with the difference multiplied by negative seven
3. three times the sum of a number and fourteen

If $z = 5$ then simplify the following expressions.

- | | | |
|--------------------|------------------|--------------------------|
| 4. $z + 6$ | 5. $4z - 1$ | 6. $-3(z + 2)$ |
| 7. $z \cdot z + 5$ | 8. $\frac{z}{7}$ | 9. $\frac{z - 4}{z + 4}$ |

If $x = 0$ and $y = 2$ then simplify the following expressions.

- | | | |
|------------------|---|-------------------------|
| 10. $x - 3y$ | 11. $\frac{3x}{y - 2} - 1$ | 12. $\frac{x + 12}{3y}$ |
| 13. $3x + y - 5$ | 14. $2\left(\frac{x + 1}{y - 2}\right)$ | 15. $3x + 2y$ |

Give the name of the property that justifies each of the following equations.

- | | | |
|---------------------------------|-----------------------------|-----------------|
| 16. $(x + 2) + 3 = x + (2 + 3)$ | 17. $3(a + 3) = 3a + 9$ | 18. $4ab = 4ba$ |
| 19. $6 + 2 = 2 + 6$ | 20. $6 \cdot 3 = 3 \cdot 6$ | |

User the Distributive Property to simplify the following expressions.

- | | | |
|-----------------|-------------------------|----------------|
| 21. $m(4x + 2)$ | 22. $-3(3x + y + 2)$ | 23. $x(2 + 5)$ |
| 24. $4(x + 3)$ | 25. $3m(a + b - c + 2)$ | |

Draw the graph of each set on a number line.

26. The real numbers between 7 and 11
27. The natural numbers greater than or equal to 7.
28. The integers greater than -3.

Let $S = \{-3, -2, 2, 4, 6, 8\}$. Which of the following are true?

- | | | |
|----------------|---------------------------|----------------------------|
| 34. $-3 \in S$ | 35. $\{-4, 6\} \subset S$ | 36. $S \subset \mathbb{N}$ |
|----------------|---------------------------|----------------------------|

