

Section 1.5 – Chapter Summary

Problem Set 3

Translate the following statements to a mathematical expression and simplify it.

1. the difference of ten and two
2. the sum of eighteen and twenty-seven
3. the quotient of eight and two
4. three more than the product of four and twelve
5. five less than the quotient of twenty-one and seven

Convert each mathematical expression to an English statement.

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|----------------|-------------------------|------------------------|
| 6. $4 + 2$ | 7. $12 - 1 + 5$ | 8. $\frac{3+7}{2} + 1$ |
| 9. $-2(5 - 4)$ | 10. $1 + 2 - 3 \cdot 4$ | 11. $3 + 6 \div 2$ |

Simplify the following expressions.

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|------------------------------|-----------------------------------|------------------------|
| 12. 3^2 | 13. $2 \cdot 8^4$ | 14. -4^3 |
| 15. $-4 \cdot 5 + 8$ | 16. $\left(-\frac{1}{3}\right)^4$ | 17. -2^6 |
| 18. $3(-2^2 - 4 \cdot (-4))$ | 19. $\frac{5^2 - 4^2}{3} - 2$ | 20. $3^2 + 10 / 2 - 1$ |

Put one of = or \neq in the blanks.

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|--|------------------------------|--|
| 21. -4 ____ 12 | 22. $4 - 6$ ____ $6 - 4$ | 23. $\frac{8-18}{2}$ ____ $4 \cdot -2$ |
| 24. $4 \cdot 1 \cdot (-3)$ ____ $-2 \cdot 1 \cdot 1$ | 25. $5 - 3$ ____ $1 \cdot 2$ | 26. $4 \cdot 3 + .4$ ____ $5 \cdot 1 + .3$ |

Draw a number line and graph the following numbers on it.

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|------------|---------|---------|----------|
| 27. -2.5 | 28. 3 | 29. 1 | 30. -2 |
|------------|---------|---------|----------|

31. If you start at 2 then go five units to the right and then two more units to the right, what number are you on?
32. If you start at 0, go four units to the left, three units to the right then eight units back to the left, where are you?

Place one of $>$, $<$ or $=$ in each of the blanks.

33. $6 \underline{\hspace{1cm}} 5$

34. $\frac{7}{3} \underline{\hspace{1cm}} 2$

35. $-8.1 \underline{\hspace{1cm}} -4.5$

36. $\frac{2}{3} \underline{\hspace{1cm}} \frac{1}{3} + \frac{1}{3}$

37. $\frac{9}{4} \underline{\hspace{1cm}} \frac{4}{9}$

38. $-5 \underline{\hspace{1cm}} -4$

Classify each of the following as true or false.

39. $3 \leq 2$

40. $-2.8 \geq -2.9$

41. $-1(3 + 2) \leq -3 - 2$

42. $1 - 4 > 4 - 1$

43. $\frac{4}{5} + 1 \leq \frac{9}{5}$

44. $-3(1 + 4) \leq 5(1 - 4)$