

Section 3.3 Exercises Part A

Simplify the following.

1. $(3m^2)^5$

2. x^7x^{11}

3. $\frac{f^{12}}{f^5}$

4. t^8t^5

5. 3^{-4}

6. $3x^7 \cdot 4x$

7. $\frac{3z^5}{12z^3}$

8. 17^0

9. $(g^8)^{-2}$

10. $\frac{14d^3}{21d^7}$

11. $(2m^2n^5g^8)^7$

12. $5x^2 \cdot 4x^7$

13. 25 less than 7 times a number is 73. What is the number?

14. Two numbers add to 251 and the second is 41 bigger than the first. What are the two numbers?

Solve.

15. $5p + 12 = 39 - 4p$

16. $5n + 48 = 7n - 2(n - 2)$

17. $15x - 10 = 5(x - 2)$

18. $2(x - 5) - x = 4x - 7$

19. $9m - 3(m - 3) = 15m + 7$

20. $8x - 12x + 3 = 9x + 8x$

21. 45 is what percent of 39?

22. 85 is 24% of what?

23. What is 19% of 3,517?

24. What is 23% of 49?

25. Original Price:
Tax: 5%
Final Price: \$239.40

26. Original Price: \$55.50
Discount: 23%
Final Price:

27. If the population of a town grew 41% up to 7191, what was the population last year?

28. If the price of an object dropped 35% down to \$11.44, what was the original price?

Solve.

29. $\frac{7}{3}t + 5 = 19$

30. $-\frac{3}{8}(x + 7) = 5 + 3x$

31. $\frac{2}{3}x - 6 = 7 + \frac{1}{2}x$

32. $.3(4x + 7) = 2.5x + 6$

33. $.005x + .045 = .004x$

34. $\frac{x+7}{4} = 4 - \frac{5}{6}x$

Preparation.

35. Simplify the following (so that there are no negative exponents).

$$\frac{5a^{-4}b^{-7}c^{-3}d^{-5}f^{-9}}{7g^{-3}h^{-8}j^{-2}k^{-1}}$$

Answers:

1. $243m^{10}$

2. x^{18}

3. f^7

4. t^{13}

5. $\frac{1}{81}$

6. $12x^8$

7. $\frac{z^2}{4}$

8. 1

9. $\frac{1}{g^{16}}$

10. $\frac{2}{3d^4}$

11. $128m^{14}n^{35}g^{56}$

12. $20x^9$

13. 14

14. $105,146$

15. $p = 3$

16. No solution

17. $x = 0$

18. $x = -1$

19. $m = \frac{2}{9}$

20. $x = \frac{1}{7}$

21. 115.4%

22. 354.17

23. 668.23

24. 11.27

25. $\$228$

26. $\$42.74$

27. $5,100$

28. $\$17.60$

29. $t = 6$

30. $x = -\frac{61}{27}$

31. $x = 78$

32. $x = -3$

33. $x = -45$

34. $x = \frac{27}{13}$

35. $\frac{5g^3h^8j^2k^1}{7a^4b^7c^3d^5f^9}$