

SHOW ALL WORK.

Complete Parts A & B OR Parts B & C

PART A:

Simplify the expression

1. $\sqrt{28}$

2. $\sqrt{32}$

3. $\sqrt{54}$

Solve the equation

4. $s^2 = 169$

5. $a^2 = 50$

PART B:

Simplify the expression. Rationalize the denominator if necessary.

6. $\sqrt{192}$

7. $\sqrt{150}$

8. $\sqrt{3} \cdot \sqrt{27}$

9. $4\sqrt{6} \cdot \sqrt{6}$

10. $\sqrt{\frac{5}{16}}$

11. $\sqrt{\frac{35}{36}}$

12. $\frac{8}{\sqrt{3}}$

13. $\frac{7}{\sqrt{12}}$

14. $\sqrt{\frac{18}{11}}$

15. $\sqrt{\frac{13}{28}}$

16. $\frac{2}{1-\sqrt{3}}$

17. $\frac{1}{5+\sqrt{6}}$

18. $\frac{\sqrt{2}}{4+\sqrt{5}}$

19. $\frac{3+\sqrt{7}}{2-\sqrt{10}}$

Solve the equation

20. $6z^2 = 150$

21. $4p^2 = 448$

22. $-3w^2 = -213$

23. $7r^2 - 10 = 25$

24. $\frac{x^2}{25} - 6 = -2$

25. $\frac{t^2}{20} + 8 = 15$

26. $4(x-1)^2 = 8$

27. $7(x-4)^2 - 18 = 10$

28. On any planet, the height h (in feet) of a falling object t seconds after it is dropped can be modeled by $h = -\frac{g}{2}t^2 + h_0$ where h_0 is the object's initial height (in feet) and g is the acceleration (in feet per second squared) due to the planet's gravity. For each planet in the table, find the time it takes for a rock dropped from a height of 150 feet to hit the surface.

g (ft/s ²)					

29. Describe and correct the error in simplifying the expression.

$$5x^2 = 405$$

$$x^2 = 81$$

$$x = 9$$

PART C:

Simplify the expression

30. $5\sqrt{24} \cdot 3\sqrt{10}$

Solve the equation

31. $2(x+2)^2 - 5 = 8$

Homework Answers 3.2

1. $2\sqrt{7}$ 2. $4\sqrt{2}$ 3. $3\sqrt{6}$ 4. ± 13 5. $\pm 5\sqrt{2}$ 6. $8\sqrt{3}$ 7. $5\sqrt{6}$
8. 9 9. 24 10. $\frac{\sqrt{5}}{4}$ 11. $\frac{\sqrt{35}}{6}$ 12. $\frac{8\sqrt{3}}{3}$ 13. $\frac{7\sqrt{3}}{6}$ 14. $\frac{3\sqrt{22}}{11}$
15. $\frac{\sqrt{91}}{14}$ 16. $-\sqrt{3}-1$ 17. $\frac{-\sqrt{6}+5}{19}$ 18. $\frac{4\sqrt{2}-\sqrt{10}}{11}$ 19. $-\frac{\sqrt{70}+3\sqrt{10}+2\sqrt{7}+6}{6}$
20. $z = \pm 5$ 21. $p = \pm 4\sqrt{7}$ 22. $w = \pm\sqrt{71}$ 23. $r = \pm\sqrt{5}$ 24. $x = \pm 10$
25. $t = \pm 2\sqrt{35}$ 26. $x = 1 \pm \sqrt{2}$ 27. $x = 2, 6$
28. Earth: 3.1 sec. Mars: 5 sec. Jupiter: 2.0 sec. Saturn: 3.2 sec. Pluto: 12.2 sec.
29. There are two solutions: $x = \pm 9$. 30. $60\sqrt{15}$ 31. $-2 \pm \frac{\sqrt{26}}{2}$