Practice 11-1

Square Roots and Irrational Numbers

Estimate to the nearest integer.

1. $\sqrt{18}$ _____

2. $\sqrt{24}$ _____

3. $\sqrt{50}$ _____

4. $\sqrt{8}$ _____

5. $\sqrt{62}$ _____

6. $\sqrt{78}$ _____

7. $\sqrt{98}$ _____

8. $\sqrt{46}$ _____

9. $\sqrt{38}$ _____

Simplify each square root.

10. $\sqrt{144}$ _____

11. $\sqrt{9 + 16}$ _____

12. $\sqrt{900}$ _____

13. $\sqrt{169}$ _____

14. $-\sqrt{100}$ _____

15. $\sqrt{0.16}$ _____

16. $\sqrt{\frac{16}{81}}$ _____

17. $\sqrt{\frac{4}{25}}$ _____

18. $\sqrt{\frac{121}{144}}$ _____

Identify each number as rational or irrational.

19. $\sqrt{289}$ _____

20. $5.7777\ldots$ _____

21. $\sqrt{41}$ _____

22. $0.62662\ldots$ _____

23. $\sqrt{49}$ _____

24. $\sqrt{52}$ _____

Find two integers that make each equation true.

25. $x^2 = 16$ _____

26. $3m^2 = 147$ _____

Use the formula $d = \sqrt{1.5h}$ to estimate the distance to the horizon d in miles for each viewer's eye height h, in feet.

27. $h = 12$ ft

28. $h = 216$ ft

29. $h = 412$ ft

_____   _____   _____

30. The Moon has a surface area of approximately 14,650,000 mi^2. Estimate its radius to the nearest mile.

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