

1. Simplify: $\sqrt{\frac{81}{100}}$

2. Find: $\sqrt{0.36}$

3. Is the statement " $-7 < -\sqrt{38} < -6$ " *true* or *false*? Explain your answer.

4. Use a calculator to find the value of $-\sqrt{300}$. If the value is irrational, round to the nearest hundredth.

5. Between which two consecutive whole numbers is $\sqrt{46}$?

6. Graph the function $d = \sqrt{2A}$ on a graphing calculator. Use the trace function to determine the value for d for which A is closest to 500 square inches.

7. Find the velocity of an object after it has fallen 62 feet. Use $v = \sqrt{2gh}$ where v is the velocity, g is the acceleration due to gravity (approximately 32 feet per second squared) and h is the distance the object has fallen. Round your answer to the nearest hundredth.

8. The length of time that it takes a pendulum to swing one full cycle is given by the function $t = 1.1\sqrt{l}$, where t is the time in seconds and l is the length of the rope in feet. How much time does one full swing take if the rope is 12 feet long? Round to the nearest hundredth of a second.

9. The approximate time t it takes for a pendulum of length l to make one complete swing is given by the formula $t = 2\pi\sqrt{\frac{l}{9.8}}$. Suppose a grandfather's clock has a pendulum of length 0.85 m. How long does it take the pendulum to make one complete swing? Use 3.14 for π and round your answers to the nearest second.

10. This table gives the price of some TVs according to the length of their diagonals.

Use the formula $d = \sqrt{2A}$ to find the area of each television screen in the table. Which model has the lowest price per square inch of area?

Model Number	Length of Diagonal	Price
4CR - 12	12 inches	\$350
4CR - 14	14 inches	\$420
4CR - 20	20 inches	\$480
4CE - 25	25 inches	\$600

11. This frequency table shows some data from accident reports at a traffic police station.

Length of Skid Mark (meters)	Number of Skids Measured
20 m	13
25 m	22
30 m	24
35 m	44
40 m	43
45 m	54

Find the median of the skid mark lengths. Use that number for d in the formula $s = \sqrt{15d}$ in order to find the corresponding car speed to the nearest meter per second.

Algebra I Practice N.RN.B.3: Simplifying Radicals 2

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[1] $\frac{9}{10}$

[2] 0.6

true; since $-\sqrt{36} = -6$ and $-\sqrt{49} = -7$ and
[3] $-49 < -38 < -36$, the statement is true.

[4] -17.32

[5] 6 and 7

[6] 32 inches

[7] 62.99 ft/sec

[8] 3.85 seconds

[9] about 2 seconds

areas: 72 in.^2 , 98 in.^2 , 200 in.^2 , 312.5 in.^2 ;
[10] lowest price per area: 25 inch TV.

[11] 23 m/s
