

NAME: _____

Evaluate:

1. $\sqrt{169}$

- [A] 169 [B] 13 [C] -13 [D] -169

2. $-\sqrt{64}$

- [A] 64 [B] 8 [C] -64 [D] -8

Simplify:

3. $\sqrt{\frac{121}{144}}$

- [A] $\frac{13}{14}$ [B] $\frac{11}{144}$ [C] $\frac{11}{12}$ [D] $\frac{11}{72}$

4. $\sqrt{\frac{81}{100}}$

5. $-\sqrt{\frac{16}{25}}$

6. $\sqrt{0.49}$

- [A] 0.35 [B] 0.7 [C] 0.07 [D] 0.035

Find:

7. $\sqrt{1.21}$

8. $\sqrt{0.36}$

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

10. Approximate $\sqrt{79}$ and write the answer as a decimal to the nearest tenth.

- [A] 9.9 [B] 8.9 [C] 8.7 [D] 8.8

11. Use a calculator to estimate $\sqrt{18}$.

- [A] 3.743 [B] 4.243
[C] 4.743 [D] 3.243

12. $\sqrt{152}$ is approximately equal to ____.

- [A] 14 [B] 15.2 [C] 12 [D] 120

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

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

15. 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.

16. 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.

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17. The length of time that it takes a pendulum to swing one full cycle is given by the function $t = 1.11\sqrt{l}$, 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.
18. 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.
19. 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

20. 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.

[1] B

[2] D

[3] C

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

[5] $-\frac{4}{5}$

[6] B

[7] 1.1

[8] 0.6

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

[10] B

[11] B

[12] C

[13] -17.32

[14] 6 and 7

[15] 32 inches

[16] 62.99 ft/sec

[17] 3.85 seconds

[18] about 2 seconds

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

[20] 23 m/s