

## Math Worksheet for 8th Grade

### Approximating irrational numbers

#### Answers

1. Between 7 and 8.
2. Between 1 and 2.
3. 4.
4. 5.7.
5. 8.66.
6. 9.95.
7.  $\sqrt{8}$  is larger ( $\sqrt{8}$  2.828... > 2.82).
8.  $\sqrt{20}$  is larger ( $\sqrt{20}$  4.4721... > 4.47).
9. 7.94.
10. Between 9 and 10.
11. 3.5.
12.  $\sqrt{3}$  is larger ( $\sqrt{3}$  1.732... > 1.73).
13. 6.32.
14. 5.2.
15. 7 is larger ( $\sqrt{48}$  6.928... < 7).
16. 8.25.
17.  $\sqrt{50}$  is larger ( $\sqrt{50}$  7.07107... > 7.07).
18. 3.32.
19.  $\sqrt{\frac{1}{4}} = 0.5$  (lies between 0 and 1).
20. 1.41.
21. Least to greatest:  $\sqrt{2}$  ( 1.41), 1.5,  $\sqrt{3}$  ( 1.73).
22. 9.95 is larger ( $\sqrt{99}$  9.949874... < 9.95).
23. 2.24.
24. 11.1.
25.  $\sqrt{2} + \sqrt{3}$  is larger ( 3.1463... > 3.14).
26. 8.94.
27.  $\sqrt{2}$  is larger ( $\sqrt{2}$  1.414... > 1.41).
28. 4.6.
29. 4.90.
30.  $\sqrt{200}$  is larger ( $\sqrt{200}$  14.1421... > 14.14).
31. 12.04.



Name:

Due Date:

Teacher:

Parent Sign:

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32.  $\sqrt{0.36} = 0.6$  (lies between 0 and 1).
33. 1.50 (exactly 1.5).
34.  $\sqrt{7}$  is larger ( $\sqrt{7} \approx 2.64575... > 2.64$ ).
35. 5.48.
36. Least to greatest: 2.82,  $\sqrt{8}$  (2.828...), 3.
37. 9.9.
38.  $\sqrt{13}$  is larger ( $\sqrt{13} \approx 3.60555... > 3.6$ ).
39. 45.
40. 0.14.
41.  $\sqrt{10}$  is larger ( $\sqrt{10} \approx 3.16228... > 3.16$ ).
42. 7.21.
43. 6.08 is closer to  $\sqrt{37}$  ( $\sqrt{37} \approx 6.08276...$ ).
44. 5.39.
45.  $\sqrt{18}$  is larger ( $\sqrt{18} \approx 4.24264... > 4.24$ ).
46. 0.71.
47. They are equal:  $\sqrt{2} \cdot \sqrt{8} = \sqrt{16} = 4$ .
48. 22.
49. Greatest to least:  $\sqrt{6}$  (2.449...), 2.24,  $\sqrt{5}$  (2.236...).
50. 9.85.