

Name: _____

Square-Root Functions

- 1) Write each of the following expressions in simplest radical form or as a rational number (if appropriate). If it is already in simplest radical form, say so.

1) $(36)^{\frac{1}{2}}$

2) $(32)^{\frac{1}{2}}$

3) $\sqrt{18}$

4) $(50)^{\frac{1}{2}}$

5) $\sqrt{\frac{81}{16}}$

6) $\sqrt{\frac{16}{49}}$

7) $\sqrt{20}$

8) $\sqrt{500}$

9) $(27)^{\frac{1}{2}}$

10) $\sqrt{72}$

11) $\sqrt{28}$

12) $\sqrt{48}$

13) $(45)^{\frac{1}{2}}$

14) $(80)^{\frac{1}{2}}$

15) $\sqrt{180}$

16) $\sqrt{\frac{5}{9}}$

17) $\sqrt{60}$

18) $(84)^{\frac{1}{2}}$

19) $\sqrt{54}$

20) $\sqrt{120}$

- 2) Evaluate the following.

1) $(\sqrt{5})^2$

2) $(\sqrt{6})^4$

3) $(\sqrt{2})^6$

4) $(\sqrt{7})^2$

5) $(\sqrt{3})^4$

6) $(\sqrt{10})^6$

- 3) Evaluate the following. If the answer is not a real number, state "Not a real number."

1) $\sqrt{64}$

2) $\sqrt{-64}$

3) $-\sqrt{64}$

4) $\sqrt{25}$

5) $\sqrt{-25}$

6) $-\sqrt{25}$

7) $\sqrt[3]{8}$

8) $\sqrt[3]{-8}$

9) $-\sqrt[3]{8}$

10) $\sqrt[4]{81}$

11) $\sqrt[4]{-81}$

12) $-\sqrt[4]{81}$

- 4) Write each of the following expressions in simplest radical form

1) $\sqrt{x^4 y^5 z^7}$

2) $\sqrt{a^2 b^9 c^5}$