

## Answers to Practice Questions for MTE 8 – Rational Exponents and Radicals

1. 4

2. -5

3.  $\sqrt[5]{(9x + 2)^2}$

4. 6.164

5. 8, 9, 64, 81

6. 4.688

7.  $a^{\frac{1}{2}}$

8.  $\frac{y^9}{x^{20}}$

9.  $21\sqrt{5}$

10.  $4|x|$

11.  $-m^3p^4\sqrt[5]{m^3}$

12.  $2x^3\sqrt[3]{7x^2}$

13.  $5\sqrt{2}$

14.  $\sqrt{22}$

15.  $-\frac{\sqrt{17}}{8}$

16.  $\sqrt{72}$ ,  $5\sqrt{2}$ ,  $\sqrt{50}$

17.  $2\sqrt{5} + 7$

18.  $-\frac{\sqrt[3]{7x}}{4}$

19.  $3 - 3\sqrt{2x}$

20.  $18 - 9\sqrt{7}$

21.  $\frac{-7\sqrt{2x}}{2x}$

22.  $5\sqrt[3]{4}$

23.  $\frac{9+4\sqrt{6}}{3}$

24.  $x = -57$

25.  $x = 9$

26.  $i$

27.  $\sqrt{-9}$ ,  $7i$ ,  $(-3)^{\frac{1}{2}}$ ,  $i\sqrt{2}$

28.  $6i\sqrt{2}$ ,  $5i\sqrt{2}$ ,  $12i\sqrt{2}$ ,  $5i\sqrt{2}$ ,  $2i\sqrt{3}$

29.  $-3 \pm 2i\sqrt{2}$

30. 19.698 ft

31.  $2\sqrt{21}$

32.  $6\sqrt{10}$