

NAME: \_\_\_\_\_

Solve:

1.  $x^{\frac{3}{4}} = 2$

2.  $x^{\frac{6}{5}} = 81$

3.  $x^{\frac{5}{4}} = 48$

4.  $x^{\frac{7}{4}} = 8$

5.  $5x^{\frac{3}{7}} = 2$

[A] 0.12    [B] 8.48    [C] 0.68    [D] 1.48

6.  $3x^{\frac{4}{5}} = 48$

[A] 0.03    [B] 9.19    [C] 0.11    [D] 32.00

7.  $4x^{\frac{6}{5}} = 64$

[A] 0.10                      [B] 27.86

[C] 10.08                     [D] 0.04

8.  $7x^{\frac{4}{7}} = 128$

[A] 5.26                      [B] -1.25

[C] 0.19                      [D] 161.69

9. A weather station reported data on tropical storms during one month.

Storm	Duration, $T$
Storm A	8 hours
Storm B	10.5 hours
Storm C	20 hours

Estimate the diameter  $D$  in miles of all three storms using the formula  $D^3 = 216T^2$ .

10. If the diameter of a storm is 30 miles, how long might it last in hours? Use the formula  $D^3 = 216T^2$  where  $D$  is the diameter in miles and  $T$  is the duration in hours.

- [1] 2.52
- [2] 38.94
- [3] 22.13
- [4] 3.28
- [5] A
- [6] D
- [7] C
- [8] D
- [9] 24 miles; 28.8 miles; 44.2 miles
- [10] 11.2 hours