

Assignment – Fractional (Rational) Exponents

$$\text{Rational Exponents: } a^{\frac{1}{n}} = \sqrt[n]{a}$$

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

11. $-144^{\frac{1}{2}} =$

2. $x^{\frac{1}{5}} =$

12. $-(-36)^{\frac{1}{2}} =$

3. $16^{\frac{1}{2}} =$

13. $-(49)^{\frac{1}{2}} =$

4. $-16^{\frac{1}{2}} =$

14. $-125^{\frac{1}{3}} =$

5. $(-16)^{\frac{1}{2}} =$

15. $-(-8)^{\frac{1}{3}} =$

6. $-x^{\frac{1}{3}} =$

16. $16^{\frac{1}{4}} =$

7. $8^{\frac{1}{3}} =$

17. $-32^{\frac{1}{5}} =$

8. $-27^{\frac{1}{3}} =$

18. $-81^{\frac{1}{4}} =$

9. $(-27)^{\frac{1}{3}} =$

19. $-(-81)^{\frac{1}{4}} =$

10. $64^{\frac{1}{3}} =$

20. $128^{\frac{1}{7}} =$

Rational Exponents: $a^{\frac{m}{n}} = \sqrt[n]{a^m}$ or $(\sqrt[n]{a})^m$

1. $x^{\frac{9}{2}} =$

11. $-121^{\frac{3}{2}} =$

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

12. $-(-25)^{\frac{5}{2}} =$

3. $81^{\frac{3}{2}} =$

13. $-(36)^{\frac{3}{2}} =$

4. $-16^{\frac{5}{2}} =$

14. $-125^{\frac{2}{3}} =$

5. $(-49)^{\frac{11}{2}} =$

15. $-(-64)^{\frac{2}{3}} =$

6. $-x^{\frac{7}{3}} =$

16. $16^{\frac{5}{4}} =$

7. $8^{\frac{5}{3}} =$

17. $-32^{\frac{3}{5}} =$

8. $-27^{\frac{2}{3}} =$

18. $-81^{\frac{3}{4}} =$

9. $(-27)^{\frac{4}{3}} =$

19. $-(-81)^{\frac{5}{4}} =$

10. $64^{\frac{2}{3}} =$

20. $256^{\frac{5}{8}} =$