

Math Sheet

Name _____ Score _____ / 14 Teacher _____ Date _____

Evaluate Exponential Functions

Substitute and keep the exact rational value.

1. $f(x) = 2 \cdot 1^x; f(1)$

2. $f(x) = \frac{1}{3} \cdot 1^x; f(-2)$

3. $f(x) = 3 \cdot \left(\frac{2}{3}\right)^x; f(3)$

4. $f(x) = \frac{8}{5} \cdot 1^x; f(-4)$

5. $f(x) = 1 \cdot \left(\frac{3}{5}\right)^x; f(1)$

6. $f(x) = 3 \cdot \left(\frac{7}{4}\right)^x; f(-2)$

7. $f(x) = 3 \cdot 1^x; f(3)$

8. $f(x) = 1 \cdot 2^x; f(-4)$

9. $f(x) = \frac{1}{3} \cdot \left(\frac{5}{3}\right)^x; f(1)$

10. $f(x) = 7 \cdot 2^x; f(-2)$

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Evaluate Exponential Functions

Substitute and keep the exact rational value.

11. $f(x) = \frac{8}{5} \cdot 2^x; f(3)$

12. $f(x) = \frac{7}{4} \cdot \left(\frac{2}{5}\right)^x; f(-4)$

13. $f(x) = \frac{7}{2} \cdot \left(\frac{6}{5}\right)^x; f(1)$

14. $f(x) = \frac{3}{2} \cdot 3^x; f(-2)$

Evaluate Exponential Functions

Answer Key

Substitute and keep the exact rational value.

1. $f(x) = 2 \cdot 1^x; f(1)$

Work:

$$2 \cdot 1^1 = 2$$

2. $f(x) = \frac{1}{3} \cdot 1^x; f(-2)$

Work:

$$\frac{1}{3} \cdot 1^{-2} = \frac{1}{3}$$

$$\frac{1}{3} \approx 0.33$$

3. $f(x) = 3 \cdot \left(\frac{2}{3}\right)^x; f(3)$

Work:

$$3 \cdot \left(\frac{2}{3}\right)^3 = \frac{8}{9}$$

$$\frac{8}{9} \approx 0.89$$

4. $f(x) = \frac{8}{5} \cdot 1^x; f(-4)$

Work:

$$\frac{8}{5} \cdot 1^{-4} = \frac{8}{5}$$

5. $f(x) = 1 \cdot \left(\frac{3}{5}\right)^x; f(1)$

Work:

$$1 \cdot \left(\frac{3}{5}\right)^1 = \frac{3}{5}$$

6. $f(x) = 3 \cdot \left(\frac{7}{4}\right)^x; f(-2)$

Work:

$$3 \cdot \left(\frac{7}{4}\right)^{-2} = \frac{48}{49}$$

$$\frac{48}{49} \approx 0.98$$

7. $f(x) = 3 \cdot 1^x; f(3)$

Work:

$$3 \cdot 1^3 = 3$$

8. $f(x) = 1 \cdot 2^x; f(-4)$

Work:

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

$$\frac{1}{16} \approx 0.06$$

9. $f(x) = \frac{1}{3} \cdot \left(\frac{5}{3}\right)^x; f(1)$

Work:

$$\frac{1}{3} \cdot \left(\frac{5}{3}\right)^1 = \frac{5}{9}$$

$$\frac{5}{9} \approx 0.56$$

10. $f(x) = 7 \cdot 2^x; f(-2)$

Work:

$$7 \cdot 2^{-2} = \frac{7}{4}$$

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Evaluate Exponential Functions

Answer Key

Substitute and keep the exact rational value.

11. $f(x) = \frac{8}{5} \cdot 2^x; f(3)$

Work:

$$\frac{8}{5} \cdot 2^3 = \frac{64}{5}$$

12. $f(x) = \frac{7}{4} \cdot \left(\frac{2}{5}\right)^x; f(-4)$

Work:

$$\frac{7}{4} \cdot \left(\frac{2}{5}\right)^{-4} = \frac{4375}{64}$$

$$\frac{4375}{64} \approx 68.36$$

13. $f(x) = \frac{7}{2} \cdot \left(\frac{6}{5}\right)^x; f(1)$

Work:

$$\frac{7}{2} \cdot \left(\frac{6}{5}\right)^1 = \frac{21}{5}$$

14. $f(x) = \frac{3}{2} \cdot 3^x; f(-2)$

Work:

$$\frac{3}{2} \cdot 3^{-2} = \frac{1}{6}$$

$$\frac{1}{6} \approx 0.17$$