

Math 8 Unit 2 Test Review:

Key

1. Rational or Irrational?

a. $\sqrt{25} = 5 - Q$

b. $\sqrt{30}$ I

2. Simplify: $(5^6)^8$ 5^{48}

3. Solve for x:

$x = \frac{4}{9}$

$\frac{1}{2}(2x+4) = \frac{1}{3}(30x-6)$

$x+2 = 10x-2$
 $-x -x$
 $2 = 9x-2$
 $+2 +2$

$6x+18 = 12x-6$
 $-6x -6x$
 $18 = 6x-6$
 $+6 +6$
 $24 = 6x$
 $\frac{24}{6} = \frac{6x}{6}$
 $x = 4$

4. Solve for x:

$x = 4$

$3(2x+6) = 2(6x-3)$

$4 = \frac{9x}{9}$ $x = \frac{4}{9}$

5. Put in order from least to greatest:

$3\frac{1}{2}, \sqrt{18}, 4.4, \frac{15}{2}$

$4.4, \frac{15}{2}, \sqrt{18}, 3\frac{1}{2}$

$\sqrt{18}$ $\sqrt{16}$ $\sqrt{25}$

6. What 2 numbers does the $\sqrt{61}$ fall between?

No solution
 $-5 \neq -8$

7. Solve for x:

$2(x+1) - 3 = -2x - 8$

$-2x - 2 - 3 = -2x - 8$
 $-2x - 5 = -2x - 8$
 $+2x +2x$
 $-5 \neq -8$

8. Simplify:

$\frac{x^{24}y^{18}}{(x^4x^0y^{-3})^2}$

$\frac{x^8y^{-6}}{y^{12}x^{-16}} = x^8y^{-6}x^{16}y^{-12}$
 $x^{24}y^{-18} = \frac{x^{24}}{y^{18}}$

9. Simplify:

$\frac{6x^8y^2}{2x^4y^{10}} = \frac{3x^4y^{-8}}{y^8}$

10. Write in scientific notation: 4,540,000,000

4.54×10^9

11. Write in scientific notation: 0.00000062

6.2×10^{-7}

12. Write in standard form: 3.4×10^{-7}

0.00000034

13. Write in standard form: 4.7×10^8

470,000,000

14. Solve for x: $2x - 6 = 12$

$x = 9$

15. Which is larger, 3.4×10^{-5} or 2×10^{-4} ?

0.000034
 0.0002

16. Solve: $\sqrt{16}$

4

17. Solve: $\sqrt[3]{8}$

2

18. Simplify: $x^3x^8y^{10}$

$x^{11}y^{10}$

19. What types of solutions can equations with 1 variable have?

1 solution
 No solution
 All real #'s

20. Solve: $\sqrt{625}$

25

21. 5^3

125