

2.1 Real Numbers

PRACTICE

Circle the number set or number sets in which the number lies.

1. 4.5 Whole Integer <u>Rational</u> Irrational	2. $\sqrt{64} = 8$ <u>Whole</u> <u>Integer</u> <u>Rational</u> Irrational	3. $\frac{15}{7}$ Whole Integer <u>Rational</u> Irrational
4. $ -18 = 18$ <u>Whole</u> <u>Integer</u> <u>Rational</u> Irrational	5. 8.3145454545... repeating decimal Whole Integer <u>Rational</u> Irrational	6. $\sqrt{7} \approx 2.64575131106...$ non repeating decimal non terminating decimal Whole Integer Rational <u>Irrational</u>
7. 3.6712 repeating decimal Whole Integer <u>Rational</u> Irrational	8. 7.5182386... non repeating decimal non terminating decimal Whole Integer Rational <u>Irrational</u>	9. $(-5)^2 = 25$ <u>Whole</u> <u>Integer</u> <u>Rational</u> Irrational
10. $- 4 = -4$ Whole <u>Integer</u> <u>Rational</u> Irrational	11. $\pi \approx 3.14159...$ non repeating decimal non terminating decimal Whole Integer Rational <u>Irrational</u>	12. $5\frac{3}{4} = \frac{23}{4}$ Whole Integer <u>Rational</u> Irrational

Convert the mixed number into an improper fraction.

13. $6\frac{1}{5} = \frac{31}{5}$ $5(6) + 1 = 31$	14. $1\frac{2}{7} = \frac{9}{7}$ $7(1) + 2 = 9$	15. $-4\frac{3}{4} = -\frac{19}{4}$ $4(4) + 3 = 19$	16. $-5\frac{1}{2} = -\frac{11}{2}$ $2(5) + 1 = 11$
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Express the following as decimals rounded to the nearest thousandth.

17. $\frac{13}{4} = 3.25$	18. $5\frac{5}{6} = \frac{35}{6} = 5.8\bar{3}$ or 5.833	19. $\sqrt{67} \approx 8.185$	20. $\sqrt{12} \approx 3.464$
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Plot each number on the number line then fill in the circle with $>$, $<$, or $=$.

21. 2.25 $\frac{9}{4}$ $<$ 2.5 	22. $\frac{-11}{3}$ $-3\frac{2}{3}$ $>$ $-\sqrt{17}$ -3.6 -4.123 	21. 1.4 $\frac{7}{5}$ $<$ $ -2 $ 2
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Simplify each absolute value expression.

24. $ -7 = 7$	25. $ 24 = 24$	26. $-\left \frac{2}{3}\right = -\frac{2}{3}$	27. $- -4.5 = -4.5$
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Order the numbers from least to greatest.

28. $1.6, |-1|, \frac{5}{3}, \sqrt{4}$
 $1, 1.6, 1.\overline{6}, 2$
 $|-1|, 1.6, \frac{5}{3}, \sqrt{4}$

29. $-\frac{2}{5}, -0.6, -1, -1\frac{1}{3}$ $-1.\overline{3}, -1, -0.6, -0.4$
 -0.4 $-1.\overline{3}$ $-\frac{1}{3}, -1, -0.6, -\frac{2}{5}$

30. $\sqrt{2}, 1.66, \frac{4}{3}, |-1.6|$ $1.\overline{3}, 1.414, 1.6, 1.66$
 1.414 $1.\overline{3}$ 1.6 $\frac{4}{3}, \sqrt{2}, |-1.6|, 1.66$

31. $-5.15, -5.2, -\frac{16}{3}, -\sqrt{26}$ $-5.\overline{3}, -5.2, -5.15, -5.099$
 $-5.\overline{3}$ -5.099 $-\frac{16}{3}, -5.2, -5.15, -\sqrt{26}$

TRUE or FALSE.

35. $|8(-2)| = |8| \cdot |-2|$
 $|-16| = 8 \cdot 2$ $16 = 16$ **True**

36. $|8 + (-2)| = |8| + |-2|$
 $|6| = 8 + 2$ $6 = 10$ **False**

37. $|\frac{8}{-2}| = \frac{|8|}{|-2|}$
 $|-4| = \frac{8}{2}$ $4 = 4$ **True**

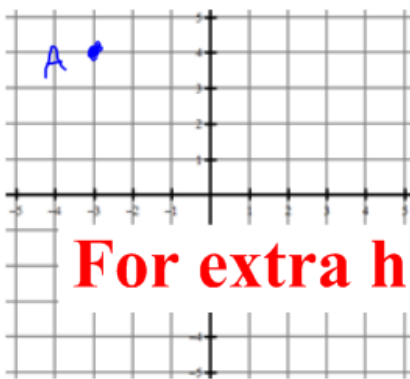
38. $|8 - (-2)| = |8| - |-2|$
 $|10| = 8 - 2$ $10 = 6$ **False**

SKILLZ REVIEW

GRAPH

Plot the points:

1. A (-3, 4) 2. B (0, 1)



SIMPLIFY

3. $\frac{5-3}{-10-6} = \frac{2}{-16} = -\frac{1}{8}$

4. $\frac{5-(-3)}{3-2}$

ORDER OF OPERATIONS

5. $2(-3)^2 - 4$

$2(9) - 4$
 $18 - 4$
 14

6. $-2 + 4(3) + \frac{4}{2}$

For extra help watch the Skillz Review Video