

Day 1

Number Sense – ordering on a number line.

Converting to decimal

- Fractions: divide the top by the bottom (A B/C Button can also be used)
- Percents: move the decimal 2 places to the left.
- Square roots: use the calculator

Example: convert to decimal

$$\frac{2}{5} \quad 1 \frac{1}{2} \quad 85\% \quad \sqrt{7}$$

Ordering and Number Lines

- Take terms to decimal and compare
- On a number line, the smaller numbers are on the left
- $<$ and $>$ point to the smaller

Example: order the following from least to greatest

$$.45 \quad -\frac{4}{10} \quad 35\% \quad \sqrt{.5}$$

Your Turn

Convert to decimal

$$\frac{9}{5} \quad -2 \frac{1}{3} \quad 25\% \quad \sqrt{7}$$

Order the following from least to greatest

$$1.95 \quad -\frac{4}{10} \quad 350\% \quad -\sqrt{12}$$

OGT Preparation #1
NS01 - Ordering, Number Lines

Name _____

1. A private mint produced commemorative coins in the quantities listed.

Commemorative Coin Production

Coin	Number Produced
Flying Eagle	270,000
Spacewalk	6,000 boxes of 24 each
Great Presidents	1.1 million
Industrial Giants	9,000 dozen

Which of the following lists the coins in order from least to greatest by the number of coins produced?

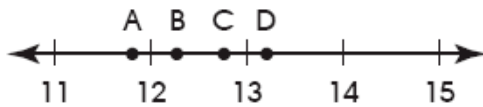
- A. Industrial Giants, Spacewalk, Flying Eagle, Great Presidents
- B. Flying Eagle, Great Presidents, Spacewalk, Industrial Giants
- C. Great Presidents, Flying Eagle, Industrial Giants, Spacewalk
- D. Industrial Giants, Flying Eagle, Spacewalk, Great Presidents

2. On the number line below, which letter best represents $\sqrt{70}$?



- A. Q
- B. R
- C. S
- D. T

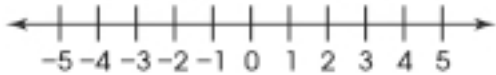
3. The figure shows four points on a number line.



Which point most accurately represents $\sqrt{150}$?

- A. A
- B. B
- C. C
- D. D

4. Let x represent any number on the real number line below.



Which of these represents the distance, in units, from x to 3?

- A. $|x|$ B. $x - 3$ C. $|x| - 3$ D. $|x - 3|$

5. Which expression is **not** equivalent to 7?

- A. $|-7|$
B. $\sqrt{49}$
C. 7^1
D. $\frac{7}{49}$

6. Jane has determined that $169 < x < 196$. What must be true about \sqrt{x} ?

- A. $13 < \sqrt{x} < 14$
B. $84.5 < \sqrt{x} < 98.0$
C. $338 < \sqrt{x} < 392$
D. $28,561 < \sqrt{x} < 38,416$

7. Ms. Patrick wrote the fractions $\frac{0.75}{1}, \frac{1.5}{2}, \frac{3}{4}, \frac{9}{12}$ on the board. Then she asked Sabrina to describe the relationship among the numbers. Which statement describes the relationship among the numbers?

- A. The fractions are equivalent.
B. The fractions are in ascending order.
C. The fractions are in descending order.
D. The fractions are doubling from left to right.

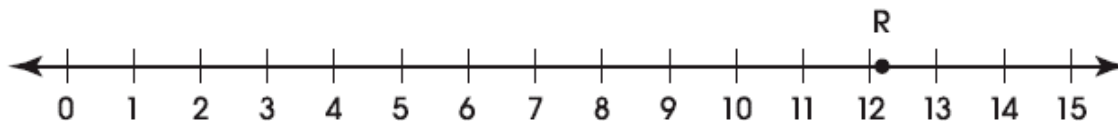
8. The approximate value of $\sqrt{34}$ is labeled by a point on the number line. Which of the points correctly displays this value?



- A. P B. Q C. R D. S

9. Which of the following shows 0.125, -2.1, $-\frac{1}{2}$, and 1.2×10^2 ordered from least to greatest?
- A. 1.2×10^2 , 0.125, $-\frac{1}{2}$, -2.1
 B. 0.125, $-\frac{1}{2}$, -2.1, 1.2×10^2
 C. -2.1, $-\frac{1}{2}$, 0.125, 1.2×10^2
 D. 1.2×10^2 , $-\frac{1}{2}$, 0.125, -2.1

10. On the number line point R represents the square root of a number.



Which value could be the square of the number represented by point R?

- A. 137 B. 149 C. 165 D. 173

11. Which sequence of numerals is equivalent to:

$\frac{2}{3}$, 10%, 0.8, 6?

- A. $\frac{4}{6}$, $\frac{1}{10}$, $\frac{8}{100}$, 0.06
 B. 0.67, 1.0, 8%, 6.00
 C. $66\frac{2}{3}\%$, $\frac{2}{20}$, $\frac{4}{5}$, 6.0
 D. $\frac{2}{3}$, 0.01, 80%, 6%

12. Selena was given five different cells to measure. The table below shows Selena's results.

Cell Sizes

Sample Number	Type of Cell	Diameter of Cell in millimeters
1	<i>Escherichia coli</i> bacterium	1.5×10^{-3}
2	red blood cell	0.008
3	<i>Haemophilus Influenzae</i> bacterium	0.0012
4	<i>Bacillus megaterium</i> bacterium	4.0×10^{-3}
5	<i>Staphylococcus aureus</i> bacterium	0.0009

In your **Answer Document**, write all of the measurements in scientific notation. Order the values from smallest to largest.

23. The figure shows four points on the number line.



Which point represents $\sqrt{27}$?

- A. R
- B. S
- C. T
- D. V

1. A private mint produced commemorative coins in the quantities listed.

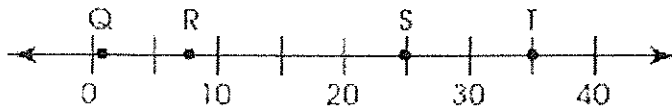
Commemorative Coin Production

Coin	Number Produced
3 Flying Eagle	270,000
2 Spacewalk	6,000 boxes of 24 each $6000(24) = 144000$
4 Great Presidents	1.1 million $1,100,000$
1 Industrial Giants	9,000 dozen $9000(12) = 108,000$

Which of the following lists the coins in order from least to greatest by the number of coins produced?

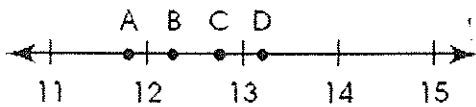
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2. On the number line below, which letter best represents $\sqrt{70}$? ≈ 8.37



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- B. R
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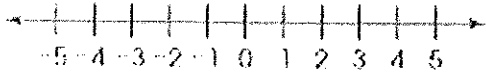
3. The figure shows four points on a number line.



Which point most accurately represents $\sqrt{150}$? ≈ 12.25

- A. A
- B. B
- C. C
- D. D

4. Let x represent any number on the real number line below.



try 5 which has distance 2
try 0 which has distance 3

Which of these represents the distance, in units, from x to 3?

- A. $|x|$ B. $x - 3$ C. $|x| - 3$ **D. $|x - 3|$**

5. Which expression is **not** equivalent to 7?

- A. $|-7|$
 B. $\sqrt{49}$
 C. 7^1
D. $\frac{7}{49} = \frac{1}{7} = .142$

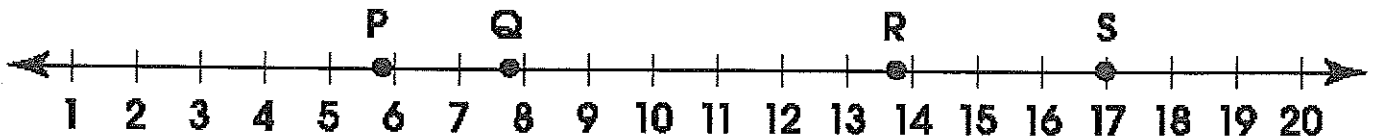
6. Jane has determined that $\sqrt{169} < \sqrt{x} < \sqrt{196}$. What must be true about \sqrt{x} ?
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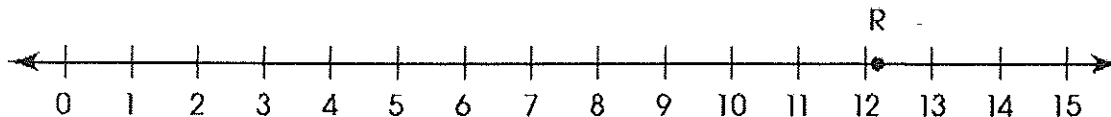
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 5.83



- A. P** B. Q C. R D. S

9. Which of the following shows 0.125, -2.1 , $-\frac{1}{2}$, and 1.2×10^2 ordered from least to greatest?
- A. 1.2×10^2 , 0.125, $-\frac{1}{2}$, -2.1 -120
- B. 0.125, $-\frac{1}{2}$, -2.1 , 1.2×10^2
- C. -2.1 , $-\frac{1}{2}$, 0.125, 1.2×10^2
- D. 1.2×10^2 , $-\frac{1}{2}$, 0.125, -2.1

10. On the number line point R represents the square root of a number.



Which value could be the square of the number represented by point R?

- A. 137 B. 149 C. 165 D. 173
- 11.7 12.2

11. Which sequence of numerals is equivalent to:

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- ~~A.~~ $\frac{4}{6}$, $\frac{1}{10}$, $\frac{8}{100}$, 0.06 66.6
- B. 0.67, 1.0, 8%, 6.00
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5	<i>Staphylococcus aureus</i> bacterium	0.0009

8×10^{-3} Largest

1.2×10^{-3}

9×10^{-4} Smallest

In your Answer Document, write all of the measurements in scientific notation. Order the values from smallest to largest.

5, 3, 1, 4, 2

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Which point represents $\sqrt{27}$?

A. R

S. 2.

B. S

C. T

D. V