## SAMPLE TEST MATHEMATICS



## 2007 Oregon Content Standards Grades 3-8

|  | 1 meter $=100$ centimeters <br> 1 kilometer $=1000$ meters <br> 1 yard $=3$ feet <br> 1 mile $=5280$ feet <br> 1 hour $=60$ minutes <br> 1 minute $=60$ seconds | 1 gram = 1000 milligrams <br> 1 kilogram = 1000 grams <br> 1 pound = 16 ounces <br> 1 ton - 2000 pounds | er $=1000$ cubic centimeters $\begin{aligned} & \text { p - } 8 \text { fluid ounces } \\ & \text { nt }=2 \text { cups } \\ & \text { aart }=2 \text { pints } \\ & \text { allon }=4 \text { quarts } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| $\begin{aligned} & \underset{\nwarrow}{\mathbb{Z}} \\ & \underset{\sim}{\underset{\alpha}{\gtrless}} \end{aligned}$ |  |  |  |
|  |  |  | $\mathrm{A}=\frac{1}{2} \mathrm{~h}\left(\mathrm{~b}_{1}+\mathrm{b}_{2}\right)$ |
|  | $\begin{aligned} S A & =2(l w+w h+l h) \\ V & =l w h=B h \\ B & =\text { Area of Base } \end{aligned}$ | SA = Sum of Areas of all faces $\begin{gathered} V=B h \\ B=\text { Area of Base } \end{gathered}$ | SA = Sum of Areas of all faces $\begin{aligned} & V=\frac{1}{3} \mathrm{Bh} \\ & \mathrm{~B}=\text { Area of Base } \end{aligned}$ |
|  | $\begin{aligned} \mathrm{SA} & =2 \pi r h+2 \pi r^{2} \\ \mathrm{~V} & =\pi r^{2} h=B h \\ B & =\text { Area of Base } \end{aligned}$ |  | $\begin{aligned} \mathrm{SA} & =4 \pi r^{2} \\ \mathrm{~V} & =\frac{4}{3} \pi r^{3} \end{aligned}$ |
|  |  |  $d=\sqrt{\left(x_{2}-x_{1}\right)^{2}+\left(y_{2}-y_{1}\right)^{2}}$ |  <br> Slope: $m=\frac{y_{2}-y_{1}}{x_{2}-x_{1}}$ |

## 2010-2013 Mathematics Sample Test - Grade 8

1. What is the measure of angle $E$ ?

A. $25^{\circ}$
B. $115^{\circ}$
C. $205^{\circ}$
D. $425^{\circ}$
2. Which of the cities listed had the highest low temperature on Sunday?

| Cities | Saturday |  |  | Sunday |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | High | Low | High | Low |  |
| Abilene | $61^{\circ}$ | $36^{\circ}$ | $70^{\circ}$ | $48^{\circ}$ |  |
| Akron | $49^{\circ}$ | $23^{\circ}$ | $46^{\circ}$ | $29^{\circ}$ |  |
| Albany | $42^{\circ}$ | $28^{\circ}$ | $45^{\circ}$ | $33^{\circ}$ |  |
| Albuquerque | $63^{\circ}$ | $34^{\circ}$ | $67^{\circ}$ | $41^{\circ}$ |  |
| Amarillo | $60^{\circ}$ | $27^{\circ}$ | $64^{\circ}$ | $39^{\circ}$ |  |
| Anchorage | $37^{\circ}$ | $25^{\circ}$ | $36^{\circ}$ | $27^{\circ}$ |  |
| Asheville | $64^{\circ}$ | $32^{\circ}$ | $55^{\circ}$ | $34^{\circ}$ |  |
| Aspen | $59^{\circ}$ | $26^{\circ}$ | $46^{\circ}$ | $17^{\circ}$ |  |
| Atlanta | $74^{\circ}$ | $48^{\circ}$ | $64^{\circ}$ | $39^{\circ}$ |  |
| Atlantic City | $53^{\circ}$ | $27^{\circ}$ | $49^{\circ}$ | $38^{\circ}$ |  |

A. Aspen
B. Atlanta
C. Amarillo
D. Abilene

## 2010-2013 Mathematics Sample Test - Grade 8

3. Hal wants to ride his bike 200 miles this month. So far, he has ridden 65 miles. There are 15 days left.
On average, how many miles does Hal need to ride each day?
A. 14
B. 9
C. 8
D. 4
4. Malik was given a bag of blue, green, red, and white marbles for an experiment. Without looking, he randomly pulled out a marble, wrote down its color and replaced it. After ten tries he had these results: six blue, three red, and one white.
Using this information, which color marble is most likely to be pulled out next?
A. Blue
B. Green
C. Red
D. White
5. Which equation best describes the relationship shown in the graph?

A. $y=x+1$
B. $y=x-1$
C. $y=2 x$
D. $y=\frac{x}{2}$

## 2010-2013 Mathematics Sample Test - Grade 8

6. Alex is building a sandbox for his son, who wants it to be in the shape of a triangle. What should the third angle ( $x$ ) measure?

A. $x=25^{\circ}$
B. $x=30^{\circ}$
C. $x=65^{\circ}$
D. $x=155^{\circ}$
7. Our team played five basketball games against a rival school.

Which is closest to our team's average score?

|  | Our <br> School | Rival <br> School |
| :--- | :---: | :---: |
| Monday | 57 | 71 |
| Tuesday | 62 | 55 |
| Wednesday | 81 | 80 |
| Thursday | 51 | 66 |
| Friday | 66 | 45 |

A. 371
B. 81
C. 63
D. 60
8. Sal pays $\$ 30$ to join the Golf Club. Each time he golfs, it costs $\$ 8$. What is the TOTAL cost for Sal to golf 20 times at his Golf Club?
A. $\$ 240$
B. $\$ 220$
C. $\$ 190$
D. $\$ 160$

## 2010-2013 Mathematics Sample Test - Grade 8

9. In the figure below, lines m and n are parallel. If $\mathrm{m} \angle 1=100^{\circ}$, then find $\mathrm{m} \angle 5$.

A. $80^{\circ}$
B. $100^{\circ}$
C. $110^{\circ}$
D. $140^{\circ}$
10. Using the congruent quadrilaterals, what is the measure of $\angle \mathrm{XYZ}$ ?

A. $85^{\circ}$
B. $130^{\circ}$
C. $140^{\circ}$
D. $220^{\circ}$

## 2010-2013 Mathematics Sample Test - Grade 8

11. What is the median of the following numbers?
$5,8,4,6,4,3,2,8$
A. 4
B. 4.5
C. 5
D. 6.5
12. Based on the graph, which of the following must be true.

A. The rabbit and the dog are running in opposite directions.
B. The dog is running faster than the rabbit.
C. The rabbit is running faster than the dog.
D. At the current rate, the dog will catch the rabbit.
13. Which graph represents the equation $y=x-2$ ?
A.

C.

B.

D.


## 2010-2013 Mathematics Sample Test - Grade 8

14. Four friends were shooting free throws with a basketball.

The results are in the table. If Cindy and Jenny each take one more free throw, who has the highest probability of making her shot?

|  | Made | Total shots |
| :--- | :---: | :---: |
| Steven | 1 | 3 |
| Cindy | 2 | 6 |
| Jenny | 3 | 9 |
| José | 4 | 12 |

A. They both have the same chance.
B. Cindy
C. Jenny
D. There is not enough information.
15. Mrs. Kovack likes to swim in Tree Lake for exercise. She swims from the cabin to the beach, over to the house, then back to the cabin.
If she does this four times, how many yards will she swim?

A. 280 yards
B. 480 yards
C. 560 yards
D. 1,200 yards

## 2010-2013 Mathematics Sample Test - Grade 8

16. Cathy's test scores are:
$75,81,85,85,85,90,95,100$
If her teacher decides to drop the lowest score, which of these would be affected the most?
A. Mean
B. Median
C. Mode
D. Range
17. Find the slope of this line.

A. -2
B. $-\frac{1}{2}$
C. $-\frac{1}{3}$
D. -3

## 2010-2013 Mathematics Sample Test - Grade 8

18. Which name best describes the figure?

A. Parallelogram
B. Quadrilateral
C. Rhombus
D. Trapezoid
19. To the nearest whole number, what is the distance between points $A$ and $B$ ?

A. 7
B. 8
C. 9
D. 10

## 2010-2013 Mathematics Sample Test - Grade 8

20. What is the equation of the straight line through these 3 points?
$(2,2),(4,5),(6,8)$
A. $y=\frac{3}{2} x-1$
B. $y=\frac{2}{3} x+\frac{2}{3}$
C. $y=\frac{3}{2} x-3$
D. $y=\frac{2}{3} x-1$

We are not able to provide a Raw-to-RIT chart as we had in the past. Many of the items were initially calibrated under the old standards for different grades, and these items do not cover all of the new standards. Since the item calibrations (RIT) are not accurate for the new standards, any attempt to convert a raw score to a RIT score would not be valid.

| Item <br> Number | Answer <br> Key | Score Reporting Category | 2007 Grade 8 <br> Content Standard |
| :---: | :---: | :--- | :---: |
| 1 | B | $8.3:$ Geometry and Measurement | 8.3 .3 |
| 2 | D | $8.2:$ Data Analysis and Algebra | 8.2 .1 |
| 3 | B | $8.1:$ Algebra | 8.1 .4 |
| 4 | A | $8.2:$ Data Analysis and Algebra | 8.2 .8 |
| 5 | A | $8.1:$ Algebra | 8.1 .1 |
| 6 | A | $8.3:$ Geometry and Measurement | 8.3 .2 |
| 7 | C | $8.2:$ Data Analysis and Algebra | 8.2 .3 |
| 8 | C | $8.1:$ Algebra | 8.1 .4 |
| 9 | B | $8.3:$ Geometry and Measurement | 8.3 .1 |
| 10 | C | $8.3:$ Geometry and Measurement | 8.3 .1 |
| 11 | B | $8.2:$ Data Analysis and Algebra | 8.2 .2 |
| 12 | C | $8.1:$ Algebra | 8.1 .3 |
| 13 | A | $8.1:$ Algebra | 8.1 .1 |
| 14 | A | $8.2:$ Data Analysis and Algebra | 8.2 .6 |
| 15 | B | $8.3:$ Geometry and Measurement | 8.3 .4 |
| 16 | D | $8.2:$ Data Analysis and Algebra | 8.2 .4 |
| 17 | A | $8.1:$ Algebra | 8.1 .2 |
| 18 | B | $8.1:$ Algebra | 8.1 .5 |
| 19 | C | $8.3:$ Geometry and Measurement | 8.3 .5 |
| 20 | A | $8.1:$ Algebra | 8.1 .2 |

