Oregon Department of Education Office of Assessment \& Evaluation

Mathematics

## BENCHMARK 3

SAMPLE TEST
2001-2002

## Mathematics

## DIRECTIONS

Read each of the questions below and then decide on the BEST answer. There are a lot of different kinds of questions, so read each question carefully before marking an answer on your answer sheet.

## 1

Jane can buy a 6 oz. package of gummy worms for $\$ 0.89$. What is the cost per ounce for gummy worms?
A. $\$ 0.15$
B. $\$ 0.89$
C. $\$ 5.34$
D. $\$ 6.74$

## 2

Which point is a translation of $E$ ?


A. J
B. M
C. N
D. L

## 3

Ms. Gomez bought 4 items at the grocery store. The items ranged in price from $\$ 2$ to $\$ 9$. What is a reasonable estimate of how much she spent for all the items?
A. Over $\$ 35$
B. About $\$ 23$
C. Less than $\$ 14$
D. About $\$ 10$

## 4

The following chart shows the price of ski-lift tickets for various numbers of rides.

| Number of Rides | Ticket Price |
| :---: | :---: |
| Single Ride | $\$ 4.00$ |
| Three Rides | $\$ 10.00$ |
| Six Rides | $\$ 16.00$ |

Any unused portions of tickets will be thrown away. If Carla wants to ride the lift 5 times, what should she buy to keep costs at a minimum?
A. 1 six-ride ticket
B. 2 single tickets and a three-ride ticket
C. 2 three-ride tickets
D. 5 single tickets

## 5

When 450 people attend the circus, 3 food stands are open. When there are 900 people, 6 stands are open. About how many people are at the circus if 9 food stands are open?
A. 1,050
B. 1,200
C. 1,350
D. 1,500

## 6

What is the greatest common factor of the following numbers?

## $\begin{array}{llll}9 & 15 & 18 & 30\end{array}$

A. 3
B. 6
C. 9
D. 15

## Mathematics

## 7

Tanya bought a large bag of groceries full of canned goods. Which of these is the best estimate of how much the bag of groceries weighed?
A. 1 pound
B. 3 pounds
C. 15 pounds
D. 75 pounds

## 8

What number comes next in the series below?

## $\begin{array}{lllllll}1 & 2 & 5 & 10 & 17 & 26 & ?\end{array}$

A. 35
B. 37
C. 39
D. 41

## 9

Members of a club made the table below to show the total number of cakes remaining at their bake sale between 10:00 a.m. and 2:00 p.m.

| Time | Number of <br> Cakes Remaining |
| :---: | :---: |
| $10: 00$ | 25 |
| $11: 00$ | 20 |
| $12: 00$ | 15 |
| $1: 00$ | 10 |
| $2: 00$ | 5 |

The number of cakes sold per hour was
A. greatest in the morning.
B. greatest in the middle of the day.
C. greatest in the afternoon.
D. steady throughout the day.

## 10

How many lines of symmetry are there in the following figure?

A. 0
B. 1
C. 2
D. Infinite

## 11

What is the solution to the following expression?

$$
10-(3-5)^{2}+16 \div(-4)-2
$$

A. -8
B. -4
C. 0
D. 24

## 12

A circle has a circumference of 31.40 cm . Find the approximate area.
A. $\quad 5 \mathrm{~cm}^{2}$
B. $25 \mathrm{~cm}^{2}$
C. $\quad 78.5 \mathrm{~cm}^{2}$
D. $3,096 \mathrm{~cm}^{2}$

## 13

What is the mode of the data given in this stem and leaf plot?

| 0 | 7789 |
| :--- | :--- |
| 1 | 0122224679 |
| 2 | 0344579 |
| 3 | 0 |

A. 2
B. 7
C. 12
D. 24

# Mathematics $\boldsymbol{\nabla}$ 

## 14

For the equation $y=6 x-3$, what value of $y$ corresponds to $x=-4$ ?
A. 21
B. -21
C. 27
D. -27

## 15

Which of these is 2-dimensional?
A. Sphere
B. Cone
C. Cylinder
D. Triangle

## 16

Assume that the population of a country will double every 20 years until at least the year 2100. If the population in the year 2000 is 10 million, what will the population most likely be in the year 2100 ?
A. 50 million
B. 100 million
C. 200 million
D. 320 million

## 17

This scale is holding 3 apples and nothing else.


How much do the apples weigh?
A. 25 pounds
B. 21 pounds
C. 2 pounds 8 ounces
D. 2 pounds 4 ounces

## 18

Joe has taken 5 tests and has an overall average of $79 \%$. His last 3 scores were $72 \%$, $75 \%$, and $84 \%$. His first 2 scores MUST
A. average $80 \%$
B. each be above $72 \%$
C. each be below $84 \%$
D. average $82 \%$

## 19

Every day during study hall, Mitchell reads 4 fewer than 4 times as many pages as Alex reads. If Mitchell read 28 pages, how many pages did Alex read?
A. 6 pages
B. 7 pages
C. 8 pages
D. 24 pages

## Mathematics

## 20

What is the length of the line segment connecting points $(2,-6)$ and $(-7,-6)$ ?
A. 1
B. -5
C. 5
D. 9

## 21

What are the coordinates of the reflection of $(4,-2)$ about the $y$-axis?
A. $(4,2)$
B. $(4,-2)$
C. $(-4,2)$
D. $(-4,-2)$

## 22

An outside concrete playing area is being added to a school. The contractor dug an area 40 feet long, 40 feet wide, and 6 inches deep. What volume of cement will be needed?
A. $400 \mathrm{ft}^{3}$
B. $800 \mathrm{ft}^{3}$
C. $4800 \mathrm{ft}^{3}$
D. $9600 \mathrm{ft}^{3}$

## 23

The following bar graph displays data regarding the grades earned in Mr. Miller's English class. Which answer best describes the percent of the students receiving A's?

A. $5 \%$
B. $6 \%$
C. $16 \%$
D. $27 \%$

## 24

Which equation represents the graph?

A. $y=-\frac{3}{7} x+3$
B. $y=\frac{3}{7} x+3$
C. $y=-\frac{7}{3} x+3$
D. $y=-\frac{3}{7} x+7$

## 25 - Non Calculator:

For which equation is n a negative number?
A. ${ }^{-} 8-\left({ }^{-} 10\right)=n$
B. $-8 \cdot-10=n$
C. $(8-3) \cdot 4=n$
D. $8-3 \cdot 4=n$

| Test Item | Correct Answer | Score Reporting Category |
| :---: | :---: | :--- |
| 1 | A | Measurement |
| 2 | D | Geometry |
| 3 | B | Calculations and Estimations |
| 4 | A | Statistics and Probability |
| 5 | C | Algebraic Relationships |
| 6 | A | Calculations and Estimations |
| 7 | C | Measurement |
| 8 | B | Algebraic Relationships |
| 9 | D | Statistics and Probability |
| 10 | B | Geometry |
| 11 | C | Calculations and Estimations |
| 12 | C | Measurement |
| 13 | C | Statistics and Probability |
| 14 | D | Algebraic Relationships |
| 15 | D | Geometry |
| 16 | D | Calculations and Estimations |
| 17 | C | Measurement |
| 18 | D | Statistics and Probability |
| 19 | C | Algebraic Relationships |
| 20 | D | Geometry |
| 21 | D | Geometry |
| 22 | B | Measurement |
| 23 | C | Statistics and Probability |
| 24 | A | Algebraic Relationships |
| 25 | D | Non-Calculator |


\left.|  | CONVERTING TO A RIT SCORE |  |
| :---: | :---: | :---: | :---: |
| Number Correct |  |  |$\right]$| RIT score |
| :---: | :---: | :---: |

[^0]- Likely to meet Benchmark III Standards •• Likely to exceed Benchmark III Standards

Students with 8 or fewer correct answers are likely to take Form A Students with 20 or more correct answers are likely to take Form C

Note: The sample test is for practice only; scores may not be substituted for the Oregon Statewide Assessment.


[^0]:    Recommendations for Level Test Placement:

