## Mr. McCaffrey's Big Tamale Geometry CST Review Test.

## Multiple Choice

Identify the choice that best completes the statement or answers the question.

1. In the statement "If a figure has three sides, it is a triangle," the phrase "...it is a triangle" is which of the following?
a. hypothesis
c. conditional
b. conclusion
d. converse
$\qquad$ 2. Which figure is a counterexample to the statement below?

For any quadrilateral, the lengths of its diagonals are equal.
a.

c.

b.

d.

3. Which of the following can be used to prove that a conditional statement is false?
a. counterexample
c. conclusion
b. converse
d. hypothesis
4. Which figure can serve as a counterexample to the conjecture below?

If one pair of opposite sides of a quadrilateral is parallel, and the other pair is congruent, then the quadrilateral is a parallelogram.
a. square
c. rhombus
b. rectangle
d. trapezoid
5. Suppose a conditional statement is true. Which of the following is true about its converse?
a. It is true.
c. It is possibly true.
b. It is false.
d. It is neither true nor false.
$\qquad$ 6. Which statement is the converse of the statement "If a polygon has eight sides, then it is an octagon"?
a. An octagon has eight sides.
b. An eight-sided polygon is an octagon.
c. If a polygon is an octagon, then it has eight sides.
d. If a polygon is an octagon, then it has eight angles.
7. Given: $A B C D$ is a parallelogram with diagonals $\overline{A C}$ and $\overline{B D}$. Which of the following must be true?
a. $\overline{A C} \perp \overline{B D}$
b. $\overline{A C} \cong \overline{B D}$
c. $\overline{A C} \| \overline{B D}$
d. $\overline{A C}$ bisects $\overline{B D}$.
8. Given the statements below, which conclusion is valid?

All birds have feathers. A penguin is a
bird.
a. All penguins have feathers.
c. All penguins can fly.
b. All birds are penguins.
d. All birds lay eggs.
9. If the conclusion is false in a valid argument, then which of the following must be false?
a. inverse
c. argument
b. converse
d. hypothesis
10. Which of the following is the inverse of the statement "A square is a rectangle"?
a. If a figure is not a square, then it is not a rectangle.
b. If a figure is not a rectangle, then it is not a square.
c. A rectangle is a square.
d. Some rectangles are squares.
11. Write the following statement as a conditional statement: "All fish can swim."
a. If an animal is a fish, then it can swim.
b. If an animal can swim, then it is a fish.
c. If an animal cannot swim, then it is not a fish.
d. If an animal is not a fish, then it cannot swim.
12. In the figure below, line $m$ is parallel to line $n$. Which of the following does not have to be true?

a. $\quad \angle 1 \cong \angle 2$
b. $\angle 1 \cong \angle 3$
c. $\quad \angle 1 \cong \angle 4$
d. $\angle 1 \cong \angle 5$
13. How many counterexamples are needed to disprove the conjecture "Two lines in a plane always intersect at exactly one point"?
a. 0
c. 2
b. 1
d. many more than 2
14. Given: $\angle B$ and $\angle D$ are right angles.


Which reason justifies the statement $m \angle B=m \angle D$ ?
a. definition of rectangle
b. definition of hypotenuse
c. equality of right angles
d. the sum of the measures of the angles of a $180^{\circ}$ triangle
15. Devon wants to prove that $\triangle A B D \cong \triangle C B D$.


One step in Devon's proof is the statement $\overline{B D} \cong \overline{B D}$. Which reason justifies that statement?
a. definition of midpoint
b. congruency of corresponding parts of congruent triangles
c. Substitution Property
d. Reflexive Property
16. In parallelogram $A B C D$, diagonals $\overline{A C}$ and $\overline{B D}$ intersect at $E$. Which of the following statements does not have to be true?
a. $\angle A E B \cong \angle D E C$
b. $\angle A E D \cong \angle B E C$
c. $\angle B C E \cong \angle D A E$
d. $\angle A B D \cong \angle B C D$
17. Jasmine wants to prove that $\triangle M N P \cong \triangle O P N$ in the parallelogram $M N O P$.


Which of the following supports Jasmine's assertion that $\angle 1 \cong \angle 2$ ?
a. If two parallel lines are intersected by a transversal, then alternate interior angles are congruent.
b. If two parallel lines are intersected by a transversal, then corresponding angles are supplementary.
c. If a quadrilateral is a parallelogram, then its opposite sides are congruent.
d. If a quadrilateral is a parallelogram, then its opposite angles are congruent.
18. Which triangles must be congruent?
a. two similar right triangles
b. two obtuse triangles with congruent bases
c. two equilateral triangles with congruent bases
d. two similar isosceles triangles
19. Which of the following would be enough to prove $\triangle C D T \sim \triangle R S T$ ?

a. $\angle S R T \cong \angle S T R$
b. $\angle S R T \cong \angle D C T$
c. $\overline{R C} \cong \overline{C T}$
d. $\overline{S D} \cong \overline{D T}$
20. In the triangles below, $\angle A B C \cong \angle D E F$.


Which of the following is sufficient to prove that the triangles are similar?
a. $\overline{A B} \cong \overline{D E}$
b. $\overline{A B} \cong \overline{B C}$
c. $\angle B A C \cong \angle E D F$
d. $\angle A B C \cong \angle D E F$
21. In the quadrilateral $A B C D$, diagonals $\overline{A C}$ and $\overline{B D}$ bisect each other. Which statement does not have to be true?
a. $\overline{A B} \cong \overline{C D}$
b. $\triangle A B D \cong \triangle C D B$
c. $A B C D$ is a rectangle.
d. $A B C D$ is a parallelogram.
22. In which of the following triangles are corresponding angles congruent and corresponding sides proportional?
a. corresponding
c. scalene
b. congruent
d. similar
23. In the quadrilateral $A B C D, \overline{A B} \cong \overline{C D}$, and $\overline{A C} \cong \overline{B D}$.


Which postulate can be used to prove $\triangle A B D \cong \triangle D C A$ ?
a. SAS
c. SSS
b. ASA
d. AAS
24. Given: $\overline{A B} \cong \overline{W Y}$ and $\overline{A C} \cong \overline{X Y}$.


Which is enough to prove that the triangles are congruent?
a. $\overline{C B} \cong \overline{W X}$
b. $\overline{C B} \cong \overline{X Y}$
c. $\angle C A B \cong \angle W X Y$
d. $\angle A B C \cong \angle Y W X$
25. A cylinder has radius 2 inches and height 8 inches.


If you needed to paint the entire cylinder, with the exception of the two bases, what area would you paint?
a. $10 \pi \mathrm{sq} \mathrm{in}$.
b. $16 \pi \mathrm{sq} \mathrm{in}$.
c. $32 \pi \mathrm{sq} \mathrm{in}$.
d. $64 \pi \mathrm{sq} \mathrm{in}$.
26. Circle $A$ has radius 3 cm . Circle $B$ has diameter 8 cm . What is the sum of their areas?
a. $11 \pi \mathrm{~cm}^{2}$
b. $24 \pi \mathrm{~cm}^{2}$
c. $25 \pi \mathrm{~cm}^{2}$
d. $73 \pi \mathrm{~cm}^{2}$
27. Circle $A$ has area $81 \pi$ square inches. Find the circumference of circle $A$.
a. $9 \pi$ in.
b. $18 \pi \mathrm{in}$.
c. $81 \pi \mathrm{in}$.
d. $162 \pi$ in.
28. A student knows that the area of a parallelogram is found by multiplying the base by the height. Drawing the diagonal for the parallelogram is one way to illustrate which formula?
a. area of a triangle
c. perimeter of a parallelogram
b. area of a rectangle
d. area of a trapezoid
29. A rectangle has an area $24 \mathrm{~cm}^{2}$ and length 3 cm . What is its perimeter?
a. 72 cm
b. 22 cm
c. 11 cm
d. 8 cm
30. A truck tire has a diameter of 3 feet. How far will the truck travel in 20 rotations?
a. $30 \pi \mathrm{ft}$
b. $60 \pi \mathrm{ft}$
c. $120 \pi \mathrm{ft}$
d. $180 \pi \mathrm{ft}$
31. A triangle has a base 12 inches long and an area of 36 square inches. Find the length of the altitude.
a. 3 in.
b. 4 in.
c. 5 in.
d. 6 in.
32. Find the area of trapezoid $A B C D$.

a. $\quad 24 \mathrm{sq}$ in.
b. 28.5 sq in .
c. 29.25 sq in .
d. 40.5 sq in .
33. A prism has volume $90 \mathrm{~cm}^{3}$. It has a square base whose area is $9 \mathrm{~cm}^{2}$. What is its surface area?
a. $\quad 138 \mathrm{~cm}^{2}$
b. $198 \mathrm{~cm}^{2}$
c. $270 \mathrm{~cm}^{2}$
d. $810 \mathrm{~cm}^{2}$
34. Which of the following techniques can be used to find the volume of any right prism or cylinder?
a. find the area of each side and multiply by the height
b. multiply the length and the width and the height
c. double the area of each side and add the results together
d. find the area of the base and multiply by the height
35. A carpenter needs 42 feet of crown molding to finish the perimeter of a rectangular room. One side of the room is 12 feet long. How much carpet will he need to finish the room?
a. $\quad 64 \mathrm{ft}^{2}$
b. $108 \mathrm{ft}^{2}$
c. $\quad 144 \mathrm{ft}^{2}$
d. $504 \mathrm{ft}^{2}$
36. A school put in a new football field. The field has a running track around its perimeter. The dimensions are shown in the figure below.


If the groundskeeper could mow 400 square feet per minute, how long would it take her to mow the entire field, to the nearest minute?
a. 100 minutes
b. 108 minutes
c. 136 minutes
d. 185 minutes
37. A runner wants to jog around the perimeter of the field. How far will the runner go in one lap?

a. 720 ft
b. 960 ft
c. $\quad 1005 \mathrm{ft}$
d. 1097 ft
38. The triangle shown on the coordinate plane below has vertices at $(-3,5),(-8,-4)$ and $(5,5)$.


What is its area, in square units?
a. 24
b. 32
c. 36
d. 72
39. One side of an equilateral triangle is 10 inches long. Find the area, to the nearest square inch.
a. 30 sq in.
b. 43 sq in.
c. 50 sq in.
d. 100 sq in.
40. Juanita is going to put a new floor in her kitchen. Her kitchen is 15 feet long and 18 feet wide. She wants to use tiles that are 9 inches square. How many tiles will she need to cover the kitchen floor?
a. 480
b. 270
c. 136
d. 66
41. Which of the following figures will have the greatest area?
a. a scalene triangle with perimeter 54 in ., base 20 in ., and height 10 in .
b. a rhombus with side 13 in ., short diagonal 10 in ., and long diagonal 24 in .
c. a trapezoid with short base 12 in., long base 16 in., and height 8 in.
d. a parallelogram with short side 12 in., long side (base) 13 in., and height 9 in.
42. Which of the following sketches does not illustrate the altitude (height) of a triangle?
a.

c.

b.

d.

43. Figure $A B C D$ is a rhombus. Find its area.

a. $\quad 12 \mathrm{sq}$ in.
b. 20 sq in .
c. 24 sq in.
d. 60 sq in.
44. Isosceles trapezoid $E F G H$ has area $80 \mathrm{~cm}^{2}$, height 20 cm , and legs 22 cm . One of the bases is 5 cm . How long is the remaining base?
a. 3 cm
b. 4 cm
c. 20 cm
d. 24 cm
45. If the base of parallelogram $M N O P$ is 1 inch less than twice its height, which expression represents the area of the parallelogram?
a. $(x)(2 x-1)$
b. $2(2 x-1)$
c. $(2 x-1)^{2}$
d. $\frac{(x)(2 x-1)}{2}$
46. Rectangle $A B C D$ has a length of 24 cm and a width of 16 cm . Find the area of the inscribed rhombus $M N O P$.

a. $80 \mathrm{~cm}^{2}$
b. $96 \mathrm{~cm}^{2}$
c. $192 \mathrm{~cm}^{2}$
d. $384 \mathrm{~cm}^{2}$
47. Carlos has developed software that allows the user to instantly find the lengths of all sides of any polygon. Which of the following figures needs more information before its area can be calculated?
a. right triangle
c. square
b. rectangle
d. rhombus
48. A kite has one diagonal 12 inches long and another diagonal 8 inches long. Which figure has the same area as the kite?
a. rectangle with length 12 in . and width 8 in .
b. triangle with base 12 in . and height 8 in .
c. parallelogram with base 12 in . and height 8 in .
d. square with side 10 in .
49. What is the value of $x$ ?

a. 61
b. 92
c. 119
d. 149
50. In the figure below, $\overline{R S} \| \overline{T U}$.


What is the value of $x$ ?
a. 60
b. 65
c. 85
d. 90
51. Two exterior angles of a triangle measure $153^{\circ}$ and $105^{\circ}$. Which could not be an interior angle measure of the triangle?
a. $27^{\circ}$
b. $75^{\circ}$
c. $78^{\circ}$
d. $102^{\circ}$
52. If the measure of an exterior angle of a regular polygon is $72^{\circ}$, how many sides does the polygon have?
a. 3
b. 4
c. 5
d. 6
53. A regular hexagon is shown below.


What is the value of $x$ ?
a. 40
b. 70
c. 120
d. 130
54. What is the value of $x$ ?

a. 22
b. 47
c. 69
d. 111
55. The sum of the interior angles of a polygon is two times the sum of its exterior angles. What type of polygon is it?
a. triangle
c. hexagon
b. quadrilateral
d. octagon
56. What is $m \angle C$ in the quadrilateral shown below?

a. $65^{\circ}$
b. $100^{\circ}$
c. $135^{\circ}$
d. $145^{\circ}$
57. A regular pentagon is shown below.


What is the value of $x$ ?
a. 41
c. 77
b. 72
d. 103
58. Two angles of a triangle measure $84^{\circ}$ and $35^{\circ}$. Which of the following could not be a measure of an exterior angle of the triangle?
a. $96^{\circ}$
b. $119^{\circ}$
c. $131^{\circ}$
d. $145^{\circ}$
59. What is the value of $x$ ?

a. 26
b. 54
c. 64
d. 154
60. If the measure of an interior angle of a regular pentagon is $(x+26)^{\circ}$, what is the value of $x$ ?
a. 46
b. 72
c. 82
d. 108
61. Two exterior angles of a quadrilateral measure $112^{\circ}$ and $38^{\circ}$. Which could be the measures of the other two exterior angles?
a. $90^{\circ}, 100^{\circ}$
b. $100^{\circ}, 100^{\circ}$
c. $100^{\circ}, 110^{\circ}$
d. $150^{\circ}, 150^{\circ}$
62. Fayad is using a straightedge and a compass to do the construction shown below.

$\times$

Which best describes Fayad's construction?
a. bisecting an angle
c. making a line parallel to $\overline{A B}$
b. bisecting a segment
d. making a line congruent to $\overline{A D}$
63. Anna wants to use a straightedge and a compass to construct an angle congruent to $\angle R$ shown below.


What is the first step she should take?
a. Use a straightedge to draw a ray.
b. Use a protractor to measure $\angle R$.
c. Adjust the compass so that it is the width of the largest part of $\angle R$.
d. From the vertex of $\angle R$, draw an arc through one side of the angle.
64. Tanesha is constructing a line parallel to line $\ell$ through point $P$. Which of the following should be her first step?
a.

c.

b.

d.

65. Jacob plans to use a straightedge and a compass to construct a line that is perpendicular to line $\ell$ and passes through point $J$, which is a point not on $\ell$. What is the first step he should take?
a. From point $J$, draw an arc that intersects line $\ell$ in two different places.
b. From point $J$, draw an arc above $J$ and an arc below $J$.
c. Draw a line through point $J$ intersecting line $\ell$.
d. Draw a line through point $J$ parallel to line $\ell$.
66. Emily is using a straightedge and a compass to do the construction shown below.


Which best describes Emily's construction?
a. a line through $P$ parallel to $\overline{Q R}$
c. a bisector of $\overline{Q R}$
b. a line through $P$ intersecting $\overline{Q R}$
d. a bisector of $\angle Q$
67. What is the first step in constructing a line perpendicular to line $m$ through point $D$ ?

a. Draw line $\overleftrightarrow{C D}$.
b. From point $A$, draw an arc through point $B$.
c. From point $D$, draw equal arcs that intersect at $A$ and B.
d. From points $A$ and $B$, draw equal arcs that intersect at $C$.
68. Carlos plans to use a straightedge and compass to construct a perpendicular bisector of $\overline{A C}$ in $\triangle A B C$ shown below.


Which shows the construction?
a.

c.

b.

d.

69. What are the coordinates of the point of intersection of the diagonals of JKLM?

a. $\left(\frac{m}{2}, \frac{k}{2}\right)$
b. $\left(\frac{j}{2}, \frac{k}{2}\right)$
c. $\left(\frac{j+m}{2}, \frac{k}{2}\right)$
d. $\left(\frac{j+m}{2}, \frac{j+k}{2}\right)$
70. What type of triangle is formed by the points $P(1,6), Q(-2,3)$, and $R(8,-1)$ ?
a. right
c. isosceles
b. acute
d. equilateral
71. What type of figure is formed by the points $F(-2,1), G(0,5), H(6,5)$, and $J(4,1)$ ?
a. square
c. trapezoid
b. rectangle
d. parallelogram
72. Given that quadrilateral $R S T U$ is a parallelogram, which is necessary in order to conclude that $R S T U$ is a rectangle?

a. $\quad($ slope $\overline{S U})($ slope $\overline{R T})=1$
b. $\quad($ slope $\overline{S U})($ slope $\overline{R T})=-1$
c. distance from $R$ to $T=$ distance from $R$ to $U$
d. distance from $R$ to $T=$ distance from $S$ to $U$
73. The figure below shows rectangle $A B C D$.


Which is a true statement?
a. $\quad($ slope $\overline{A B})($ slope $\overline{B C})=-1$
c. slope $\overline{A B}=$ slope $\overline{B C}$
b. $\quad($ slope $A B)($ slope $\overline{B C})=1$
d. slope $\overline{A B}=2$ (slope $\overline{B C}$ )
74. The figure below shows $\triangle F G H$.


Which statement would prove that $\triangle F G H$ is an isosceles triangle?
a. $\quad($ slope $\overline{F G})($ slope $\overline{G H})=1$
b. $\quad($ slope $\overline{F G})($ slope $\overline{G H})=-1$
c. distance from $F$ to $G=$ distance from $G$ to $H$
d. distance from $F$ to $G=-($ distance from $G$ to $H$ )
75. What type of triangle is formed by the points $J(-3,5), K(1,10)$, and $L(4,0)$ ?
a. right
c. isosceles
b. scalene
d. equilateral
76. The diameter of a circle has endpoints at $(1,-1)$ and $(5,5)$. What are the coordinates of the center of the circle?
a. $(6,4)$
b. $(4,6)$
c. $(2,3)$
d. $(3,2)$
77. A figure is formed by the points $A(0,0), B(a, 0), C(a, a)$, and $D(0, a)$. What type of figure is formed?
a. square
c. kite
b. triangle
d. trapezoid
78. The figure below shows parallelogram $M N P Q$.


Which statement would prove that $M N P Q$ is a rhombus?
a. $\quad($ slope $\overline{M P})($ slope $\overline{N Q})=1$
b. $\quad($ slope $\overline{M P})($ slope $\overline{N Q})=-1$
c. distance from $N$ to $Q=$ distance from $M$ to $P$
d. distance from $N$ to $Q=\frac{1}{2}($ distance from $M$ to $P)$
79. What type of figure is formed by the points $W(-1,6), X(5,6), Y(2,3)$, and $Z(-1,3)$ ?
a. square
c. trapezoid
b. rhombus
d. rectangle
$\qquad$ 80. In the figure below, $\sin B=0.8$.


What is the length of $\overline{A B}$ ?
a. 9.6
b. 12
c. 12.8
d. 15
81. In the figure below, if $\sin x=\frac{8}{17}$, then what is $\cos x$ ?

a. $\frac{8}{15}$
b. $\frac{15}{17}$
c. $\frac{15}{8}$
d. $\frac{17}{15}$
82. In the figure below, the flagpole has height $h$. In the triangle, $\tan x=1.5$. How many feet tall is the flagpole?

a. $\quad 16 \mathrm{ft}$
b. 25.5 ft
c. 36 ft
d. 48 ft
83. In a right triangle, $\cos x=\frac{8}{10}$. What are $\sin x$ and $\tan x$ ?
a. $\sin x=\frac{6}{10}$, and $\tan x=\frac{6}{8}$
b. $\sin x=\frac{6}{10}$, and $\tan x=\frac{8}{6}$
c. $\sin x=\frac{10}{6}$, and $\tan x=\frac{6}{8}$
d. $\sin x=\frac{10}{6}$, and $\tan x=\frac{10}{8}$
84. In a right triangle, $\tan x=\frac{35}{12}$. What is $\sin x$ ?
a. $\frac{12}{35}$
b. $\frac{12}{37}$
c. $\frac{35}{37}$
d. $\frac{37}{35}$
85. In a right triangle, $\cos x=\frac{7}{25}$. Which correctly shows the triangle?
a.

c.

b.

d.

86. In the figure below, $\tan A=1.5$.


What is the length of $\overline{A C}$ ?
a. 24
b. 36
c. 40
d. 54
87. In the triangle below, $\tan x \approx 0.47$. Approximately how far is the cat from the girl?

a. $\quad 11.9 \mathrm{ft}$
b. $\quad 10.6 \mathrm{ft}$
c. 4.7 ft
d. 2.4 ft
88. In a right triangle, $\cos x=\frac{24}{a}$, and $\sin x=\frac{7}{a}$. What is $\tan x$ ?
a. $\frac{25}{7}$
b. $\frac{7}{25}$
c. $\frac{24}{7}$
d. $\frac{7}{24}$
89. In the figure below, if $\tan x=\frac{48}{14}$, then what is $\sin x$ ?

a. $\frac{14}{48}$
b. $\frac{14}{50}$
c. $\frac{50}{48}$
d. $\frac{48}{50}$
90. Triangle $R S T$ is shown below.


Which equation should be used to find the length of $\overline{R S}$ ?
a. $\sin 56^{\circ}=\frac{R S}{31}$
b. $\sin 56^{\circ}=\frac{31}{R S}$
c. $\cos 56^{\circ}=\frac{R S}{31}$
d. $\cos 56^{\circ}=\frac{31}{R S}$
91. In the figure below, $m \angle K=41^{\circ}$, and $M K=18$.


Which equation could be used to find $x$ in $\triangle K L M$ ?
a. $x=18 \sin 41^{\circ}$
b. $x=18 \cos 41^{\circ}$
c. $x=18 \tan 41^{\circ}$
d. $x=\frac{18}{\sin 41^{\circ}}$
92. In the triangle below, which equation should be used to find the length of the hypotenuse?

a. $b=24 \sin 35^{\circ}$
b. $b=24 \cos 35^{\circ}$
c. $b=\frac{24}{\sin 35^{\circ}}$
d. $b=\frac{24}{\cos 35^{\circ}}$
93. The figure below shows a 10 -foot ladder leaning against a wall. The ladder makes a $62^{\circ}$ angle with the ground.


Which is closest to how far up the ladder reaches on the wall?
a. 4.7 ft
b. 6.2 ft
c. 8.8 ft
d. $\quad 18.8 \mathrm{ft}$
94. In a right triangle, one angle has measure $26^{\circ}$. The side opposite that angle is 9 cm long. Which is closest to the length of the hypotenuse?

$$
\begin{aligned}
& \sin 26^{\circ} \approx 0.44 \\
& \cos 26^{\circ} \approx 0.90 \\
& \tan 26^{\circ} \approx 0.49
\end{aligned}
$$

a. $\quad 2.9 \mathrm{~cm}$
b. $\quad 10.0 \mathrm{~cm}$
c. $\quad 18.4 \mathrm{~cm}$
d. 20.5 cm
95. Which equation could be used to find $a$ in the right triangle below?

a. $\sin 27^{\circ}=\frac{55}{a}$
b. $\cos 27^{\circ}=\frac{55}{a}$
c. $\cos 27^{\circ}=\frac{a}{55}$
d. $\tan 27^{\circ}=\frac{55}{a}$
96. In a right triangle, one angle has measure $50^{\circ}$ and hypotenuse 6 inches. Which equation could be used to find $x$, the side opposite the $50^{\circ}$ angle?
a. $\sin 50^{\circ}=\frac{x}{6}$
b. $\sin 50^{\circ}=\frac{6}{x}$
c. $\cos 50^{\circ}=\frac{x}{6}$
d. $\cos 50^{\circ}=\frac{6}{x}$
97. In the figure below, $m \angle Q=17^{\circ}$, and $N P=23$.


Which equation could be used to find the value of $x$ in $\triangle N P Q$ ?
a. $x=\frac{23}{\sin 17^{\circ}}$
b. $x=\frac{23}{\cos 17^{\circ}}$
c. $x=\frac{\tan 17^{\circ}}{23}$
d. $x=\frac{\cos 17^{\circ}}{23}$
98. The figure below shows a 20 -foot water slide. The slide makes a $32^{\circ}$ angle with the ground.


Which is closest to the length of the ladder?
a. 10.6
b. 12.4
c. 23.6
d. 32.0
99. In the circle below, $\overline{H J}$ and $\overline{K L}$ are chords intersecting at $M$.


If $H M=6, J M=6$, and $L M=9$, then what is the length of $\overline{K M L}$ ?
a. 3
b. 4
c. 12
d. 36
$\qquad$ 100. $\overleftrightarrow{B G}$ is tangent at point $B$ to a circle whose center is $C . \overline{B D}$ is a diameter.


What is $m \angle A B G$ ?
a. $40^{\circ}$
b. $58^{\circ}$
c. $90^{\circ}$
d. $116^{\circ}$
$\qquad$ 101. In the figure below, $\overleftrightarrow{A D}$ is tangent to circle $M$ at point $D, \overleftrightarrow{A C}$ intersects circle $M$ at points $B$ and $C, m \overparen{B D}=$ $64^{\circ}$, and $m \overparen{m C}=96^{\circ}$.


What is $m \angle D A B$ ?
a. $68^{\circ}$
b. $100^{\circ}$
c. $136^{\circ}$
d. $200^{\circ}$
$\qquad$ 102. In the figure below, secants $\overleftrightarrow{Q S}$ and $\overleftrightarrow{R T}$ intersect at point $P, m \overparen{Q R}=63^{\circ}$, and $\overparen{m T S}=81^{\circ}$.


What is $m \angle S P T$ ?
a. $18^{\circ}$
b. $36^{\circ}$
c. $72^{\circ}$
d. $144^{\circ}$
103. In the figure below, $\triangle F G H$ is inscribed in circle $A, m \overparen{m H}=156^{\circ}$, and $m \widehat{G^{F H}}=116^{\circ}$.


What is $m \angle F H G$ ?
a. $88^{\circ}$
b. $64^{\circ}$
c. $44^{\circ}$
d. $32^{\circ}$
$\qquad$ 104. In the figure below, $\triangle A B C$ is inscribed in circle $T$ and $\overparen{m A B}=50^{\circ}$.


What is $m \angle B A C$ ?
a. $25^{\circ}$
b. $40^{\circ}$
c. $55^{\circ}$
d. $65^{\circ}$
$\qquad$ 105. A square is circumscribed about a circle. What is the ratio of the perimeter of the square to the circumference of the circle?
a. $\frac{8}{1}$
b. $\frac{4}{1}$
c. $\frac{2}{\pi}$
d. $\frac{4}{\pi}$
$\qquad$ 106. Triangle $A B C$ is circumscribed about the circle. In the figure, $A D=6, D B=4$, and the perimeter of $\triangle A B C$ is 40.


What is the length of $\overline{F C}$ ?
a. 10
b. 15
c. 20
d. 30
$\qquad$ 107. In the figure below, $\overline{C D}$ is tangent to circle $B$ at point $C$.


What is the length of $\overline{F D}$ ?
a. 7
b. 8
c. 9
d. 17
$\qquad$ 108. If triangle $E F G$ is rotated 180 degrees about the origin, what would be the coordinates of $G^{\prime}$ ?

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|  |  |  |  |  | ${ }^{5}$ |  |  |  |  |  |  |

a. $(-4,-2)$
b. $(-4,2)$
c. $(-2,4)$
d. $(-2,-4)$
$\qquad$ 109. If trapezoid $L M N P$ is reflected across the $y$-axis, what would be the coordinates of $L^{\prime}$ ?

|  |  |  | (N) $5^{4 y}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| M |  | $\cdots$ |  |  |  |  |
|  |  |  | 4 |  |  |  |
|  |  |  | 3 |  |  |  |
|  |  |  | 2 |  |  |  |
| $L$ |  |  | P |  |  |  |
|  | 4 | -3-2 | $2{ }^{2}$ | 1 | 2 | 3 x |
|  |  |  | $1{ }^{1}$ |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  | ${ }^{-3}$ |  |  |  |

a. $(-5,-1)$
b. $(5,1)$
c. $(1,5)$
d. $(-1,5)$
$\qquad$ 110. Triangle $H J K$ below is translated so that the coordinates of the new vertices are $H^{\prime}(-2,4)$, $J^{\prime}(1,4)$, and $K^{\prime}(2,0)$.


Which motion rule describes the translation?
a. $(x, y) \rightarrow(x+1, y+2)$
b. $(x, y) \rightarrow(x-1, y+2)$
c. $(x, y) \rightarrow(x+2, y-1)$
d. $(x, y) \rightarrow(x-2, y+1)$
111. Square $P Q R S$ below is to be translated to square $P^{\prime} Q^{\prime} R^{\prime} S^{\prime}$ by the following motion rule.
$(x, y) \rightarrow(x+2, y-6)$


What will be the coordinates of vertex $P^{\prime}$ ?
a. $(-2,-3)$
b. $(-3,-1)$
c. $(1,-1)$
d. $(-10,5)$
$\qquad$ 112. The vertices of parallelogram $A B C D$ are $A(-3,0), B(-1,3), C(-1,-2)$, and $D(-3,-5)$. If the figure is translated 4 units to the right and 2 units up, what are the coordinates of vertex $B^{\prime}$ ?
a. $(-3,-1)$
b. $(-5,1)$
c. $(1,7)$
d. $(3,5)$
$\qquad$ 113. If triangle $J K L$ is rotated 180 degrees about the origin, what are the coordinates of $J^{\prime}$ ?

a. $(5,3)$
b. $(3,0)$
c. $(3,5)$
d. $(3,-5)$
$\qquad$ 114. The vertices of $\triangle A B C$ are $A(0,6), B(2,1)$, and $C(-3,4)$. If the figure is reflected across the $x$-axis to create $\triangle W X Y$, what would be the coordinates of the vertices of $\triangle W X Y$ ?
a. $\quad W(-6,0), X(2,1), Y(-3,-4)$
b. $\quad W(-3,-4), X(2,1), Y(0,-6)$
c. $\quad W(0,-6), X(2,-1), Y(-3,-4)$
d. $\quad W(0,6), X(-2,1), Y(3,-4)$
$\qquad$ 115. Triangle $T U V$ has vertices $T(-2,1), U(2,4)$, and $V(0,-1)$. Which shows $\triangle T U V$ translated 3 units down and 1 unit to the left?
a.

c.

b.

d.


Mr. McCaffrey's Big Tamale Geometry CST Review Test. Answer Section

## MULTIPLE CHOICE

1. ANS: B
2. ANS: D
3. ANS: A
4. ANS: D
5. ANS: C
6. ANS: C
7. ANS: D
8. ANS: A
9. ANS: D
10. ANS: A
11. ANS: A
12. ANS: D
13. ANS: B
14. ANS: C
15. ANS: D
16. ANS: D
17. ANS: A
18. ANS: C
19. ANS: B
20. ANS: C
21. ANS: C
22. ANS: D
23. ANS: C
24. ANS: A
25. ANS: C
26. ANS: C
27. ANS: B
28. ANS: A
29. ANS: B
30. ANS: B
31. ANS: D
32. ANS: C
33. ANS: A
34. ANS: D
35. ANS: B
36. ANS: C
37. ANS: D
38. ANS: C
39. ANS: B
40. ANS: A
41. ANS: B

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42. ANS: D
43. ANS: C
44. ANS: A
45. ANS: A
46. ANS: C
47. ANS: D
48. ANS: B
49. ANS: C
50. ANS: C
51. ANS: D
52. ANS: C
53. ANS: B
54. ANS: B
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56. ANS: D
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81. ANS: B
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83. ANS: A
84. ANS: C
85. ANS: D
86. ANS: A
87. ANS: B
88. ANS: D

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89. ANS: D
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92. ANS: D
93. ANS: C
94. ANS: D
95. ANS: D
96. ANS: A
97. ANS: A
98. ANS: B
99. ANS: B
100. ANS: B
101. ANS: A
102. ANS: C
103. ANS: C
104. ANS: D
105. ANS: D
106. ANS: A
107. ANS: C
108. ANS: A
109. ANS: B
110. ANS: B
111. ANS: A
112. ANS: D
113. ANS: C
114. ANS: C
115. ANS: C

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