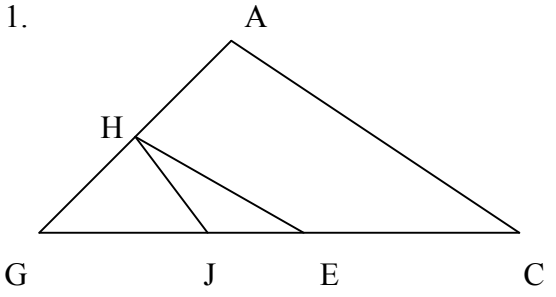
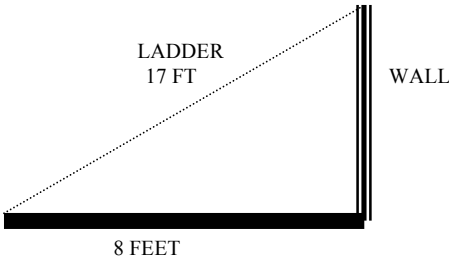


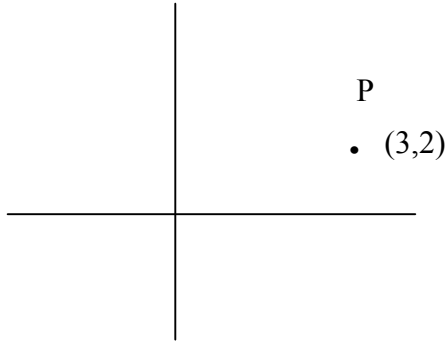
Geometry Summer Math Assignment

Name:

- I. For each multiple-choice question, circle the correct answer. Show your work or thought process in the box on the right.

<p>1.</p>  <p>Given $HG=HJ=JE$, HE is parallel to AC and $m\angle AHJ = 128^\circ$, what is $m\angle C$?</p> <p>A. 32° B. 44° C. 52° D. 64°</p>	<p>WORK:</p>
<p>2.</p>  <p>A 17-foot ladder leans against a wall. If the ladder is 8 feet from the base of the wall, how far is it from the bottom of the wall to the top of the ladder?</p> <p>A. 5 feet B. 9 feet C. $2\sqrt{34}$ feet D. 15 feet</p>	<p>WORK:</p>
<p>3. A circular region rotated 360° around its diameter (serving as an axis) generates a</p> <p>A. cube. B. rectangle C. cone D. sphere</p>	<p>WORK:</p>

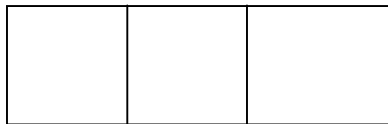
4. Point P, whose coordinates are (3,2) is reflected through the y-axis to give a new point, P'. Next, P' is translated two units to the left, giving another new point P''. What are the coordinates of the point P''?



- A. (-3, 2) B. (1, -2)
C. (-5, 2) D. (-2, -3)

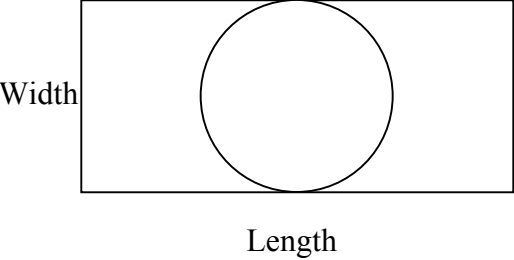
WORK:

5. A rectangle is divided into three squares, as shown in the diagram. If the long side of the rectangle is equal to 12 cm, what is the area of one of the squares?



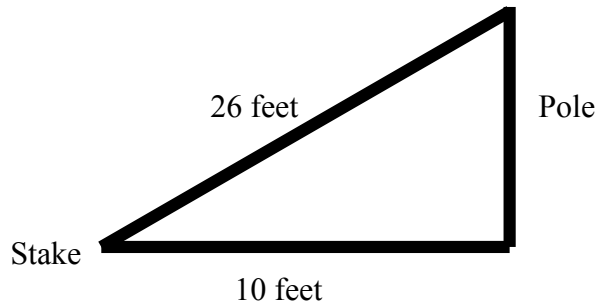
- A. 8 cm^2 B. 32 cm^2
C. 16 cm^2 D. 64 cm^2

WORK:

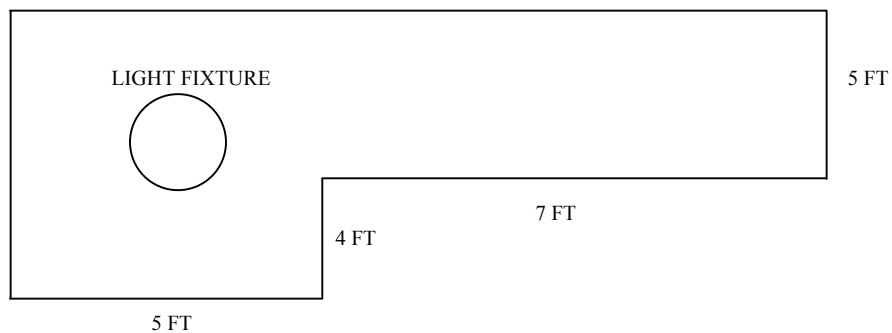
<p>6. A rectangular box is to be filled with candy. The rectangular box measures 4 feet long, 3 feet wide, and 2.5 feet deep. If a box of candy weighs approximately 3 pounds per cubic foot, what will the weight of the rectangular box be when the box is filled to the top with candy?</p> <p>A. 10 pounds B. 36 pounds C. 12 pounds D. 90 pounds</p>	<p>WORK:</p>
<p>7. A dartboard consists of a circle inside a rectangle, as shown below:</p>  <p>The diameter of the circle equals the width of the rectangle. If the length of the rectangle is 20 units and its area is 160 square units, what is the approximate probability that a dart that lands inside the rectangle will also land inside the circle?</p> <p>A. .05 B. .25 C. .13 D. .31</p>	<p>WORK:</p>

II. Constructed Response Questions. Show all work and clearly indicate your final answer for each question.

8. 8. A 26-foot wire reaches from the top of a pole to a stake in the ground. If the distance from the base of the pole to the stake is 10 feet, how high is the pole?

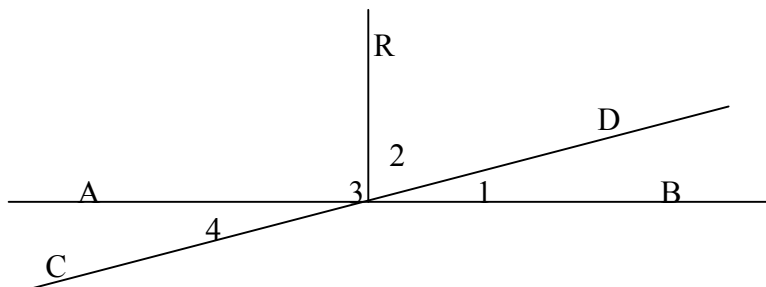


9. Sam must paint his bedroom ceiling. The diagram below represents his bedroom ceiling and includes a circular light fixture with a diameter of 2 feet. A gallon of paint covers 16 square feet and costs \$8.95. How much will Sam have to spend on paint to cover the entire ceiling except for the light fixture? Assume he cannot buy a fraction of a gallon of paint.



Put work on next page:

10. Given straight lines AB and CD intersecting at point P, $PR \perp AB$ and the measure of $\angle APD$ is 170° . Find the measures of $\angle 1$, $\angle 2$, $\angle 3$, and $\angle 4$.



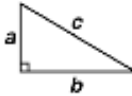
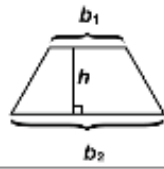
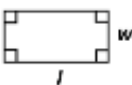
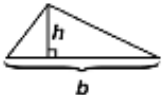
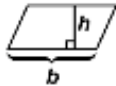

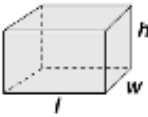
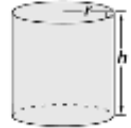
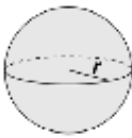


$m\angle 1 =$

$m\angle 2 =$

$m\angle 3 =$

$m\angle 4 =$

HIGH SCHOOL PROFICIENCY ASSESSMENT MATHEMATICS REFERENCE SHEET

<p>Pythagorean Formula</p> $c^2 = a^2 + b^2$ 	<p>Trapezoid</p> $\text{Area} = \frac{1}{2}h(b_1 + b_2)$ 	<p>60 seconds = 1 minute 60 minutes = 1 hour 24 hours = 1 day 7 days = 1 week 52 weeks = 1 year</p>
<p>Rectangle</p> $\text{Area} = lw$ $\text{Perimeter} = 2(l + w)$ 	<p>Triangle</p> $\text{Area} = \frac{1}{2}bh$ 	<p>12 inches = 1 foot 3 feet = 1 yard 36 inches = 1 yard 5,280 feet = 1 mile 1,760 yards = 1 mile</p>
<p>Parallelogram</p> $\text{Area} = bh$ 	<p>Circle</p> $\text{Area} = \pi r^2$ $\text{Circumference} = 2\pi r$ 	<p>100 centimeters = 1 meter 1000 meters = 1 kilometer</p>
<p>Rectangular Prism</p>  $\text{Volume} = lwh$ $\text{Surface Area} = 2lw + 2wh + 2lh$	<p>Cylinder</p> $\text{Volume} = \pi r^2 h$ $\text{Surface Area} = 2\pi rh + 2\pi r^2$ 	<p>8 fluid ounces = 1 cup 2 cups = 1 pint 2 pints = 1 quart 4 quarts = 1 gallon 1000 milliliters (mL) = 1 liter (L)</p>
<p>Sphere</p> $\text{Volume} = \frac{4}{3}\pi r^3$ $\text{Surface Area} = 4\pi r^2$ 	<p>Cone</p> $\text{Volume} = \frac{1}{3}\pi r^2 h$ 	<p>16 ounces = 1 pound 1000 milligrams = 1 gram 100 centigrams = 1 gram 10 grams = 1 dekagram 1000 grams = 1 kilogram</p>
<p>The sum of the measures of the interior angles of a triangle = 180° The measure of a circle is 360° or 2π radians</p>		<p>$\pi \approx 3.14$ or $\frac{22}{7}$</p>
<p>Given a right triangle:</p>  $\sin \theta = \frac{\text{opposite side}}{\text{hypotenuse}} \quad \cos \theta = \frac{\text{adjacent side}}{\text{hypotenuse}} \quad \tan \theta = \frac{\text{opposite side}}{\text{adjacent side}}$		<p>Given the points (x_1, y_1), (x_2, y_2),</p> <p>Distance between two points:</p> $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ <p>Slope Formula:</p> $m = \frac{\text{rise}}{\text{run}} = \frac{y_2 - y_1}{x_2 - x_1}$ <p>Slope-intercept form of a line:</p> $y = mx + b$
<p>Interest = principal \times rate \times time</p> <p>Simple Interest Formula: $A = p + prt$ Compound Interest Formula: $A = p\left(1 + \frac{r}{n}\right)^{nt}$</p> <p>$A$ = amount after t years; p = principal; r = annual interest rate; t = number of years; n = number of times compounded per year</p>		<p>Distance = rate \times time</p>
<p>The number of combinations of n elements taken r at a time is given by $\frac{n!}{(n-r)!r!}$</p> <p>The number of permutations of n elements taken r at a time is given by $\frac{n!}{(n-r)!}$</p>		

