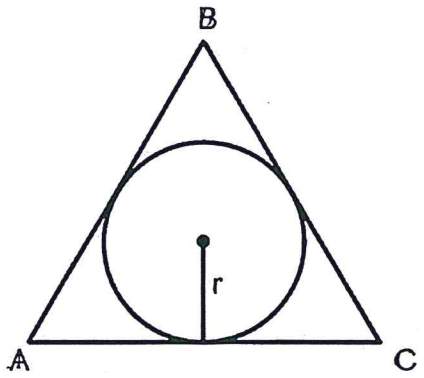
Bellwork Hon Alg 2 Friday, March 31, 2017

Answers

1. In the figure to the right, a circle is tangent to the sides of equilateral $\triangle ABC$ and the radius r equals 5. What is the perimeter of $\triangle ABC$?

A. $15\sqrt{3}$
B. $30\sqrt{3}$
C. 30
D. 60
E. $60\sqrt{2}$



2. The perimeter of regular hexagon J is 12 times the perimeter of regular hexagon K. If the perimeter of K = 15, what is the lenght of one side of J?

A. $\frac{5}{4}$
B. 5
C. 10
D. 20
E. 30

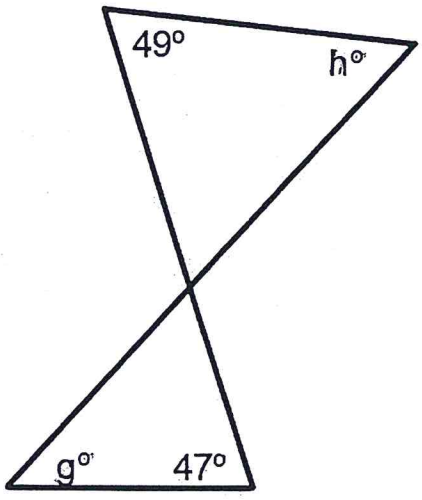
3. If exactly two of the three integers i, j, and k are odd, which of the following must be odd?

I. $(i+j)k$
II. $i+j+k$
III. $ij+k$

A. III only
B. I, II, and III
C. I and III only
D. I and II only
E. I only

4. In the figure to the right, what is the value of $|g - h|$?

A. 2
B. 41
C. 43
D. 84
E. 86



Note: figure not drawn to scale.

5. Let the function f be defined by $f(x) = x - u$. If $f(4) = -8$, what is the value of $f(2u)$?

6. Which of the following could be the remainders when 3 consecutive integers are each divided by 2?

A. 2,0,1
B. 0,1,2
C. 0,1,0
D. 0,0,1
E. 0,0,0

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1. In the figure to the right, a circle is tangent to the sides of equilateral $\triangle ABC$ and the radius r equals 5. What is the perimeter of $\triangle ABC$?

A. $15\sqrt{3}$
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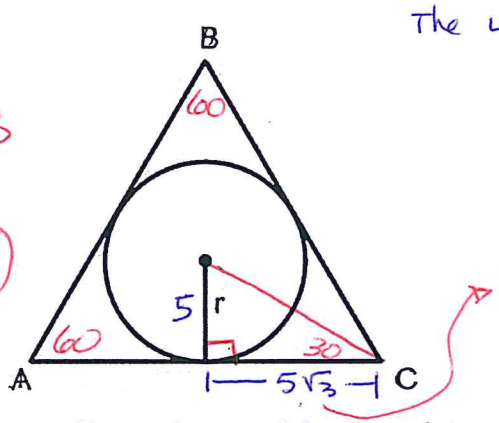
IN A $30°-60°-90°$ $\triangle$
The long leg $= \sqrt{3} \cdot$ short leg

perimeter $=$ (1 side) $\times 3$
$= 10\sqrt{3} \times 3$
$= 30\sqrt{3}$



THIS means each side is $= 10\sqrt{3}$

2. The perimeter of regular hexagon J is 12 times the perimeter of regular hexagon K. If the perimeter of K = 15, what is the lenght of one side of J?

A. $\frac{5}{4}$
B. 5
C. 10
D. 20
E. 30

perimeter of J $= 12(15)$
$= 180$

1 side of J $= \frac{180}{6} = 30$

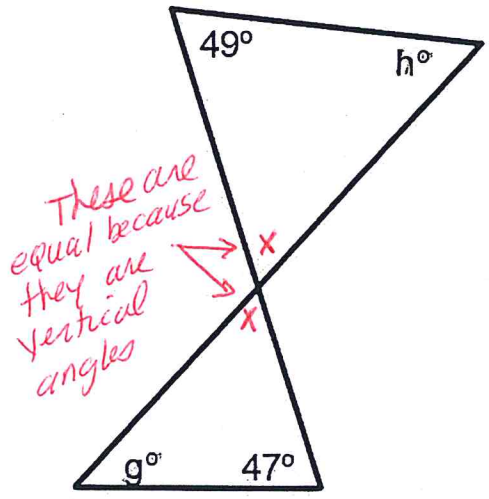
3. If exactly two of the three integers i, j, and k are odd, which of the following must be odd?

I. $(i+j)k$ ✗ could be odd or even
II. $i+j+k$ ✗ odd + odd + even = even
III. $ij+k$ must be odd

A. III only
B. I, II, and III
C. I and III only
D. I and II only
E. I only

4. In the figure to the right, what is the value of $|g - h|$?

A. 2
B. 41
C. 43
D. 84
E. 86



These are equal because they are vertical angles

$49+h+x=180$
$47+g+x=180$
$49+h+x = 47+g+x$
$-x \quad -x$
$49+h = 47+g$
$-h \quad -h$
$49 = 47+g-h$
$-47 \quad -47$
$2 = g-h$

Note: figure not drawn to scale.

5. Let the function f be defined by $f(x) = x - u$. If $f(4) = -8$, what is the value of $f(2u)$?

$f(4) = -8 \rightarrow -8 = 4-u$
$x \quad y$
$-4 \quad -4$
$-12 = -u$
$u = 12$

$f(x) = x-u$
$f(x) = x-12 \rightarrow f(24) = f(2 \cdot 12) = f(24)$
$f(24) = 24-12 = 12$

6. Which of the following could be the remainders when 3 consecutive integers are each divided by 2?

A. 2,0,1
B. 0,1,2
C. 0,1,0
D. 0,0,1
E. 0,0,0