

1. What is the maximum number of consecutive positive integers that can be added together before the sum exceeds 400?

1. _____

2. A father left 280 acres of land to be divided among his sons Al and Bob in the ratio 4:3, respectively. How many acres should Al receive?

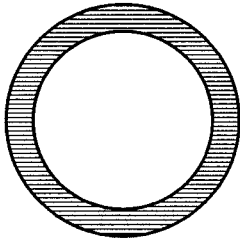
2. _____

3. Acme T-Shirt Company charges a \$50 set-up fee plus \$9 for each shirt printed. Beta T-Shirt Company has no set up fee, but charges \$14 per shirt. What is the minimum number of shirts for which a customer saves money by using Acme?

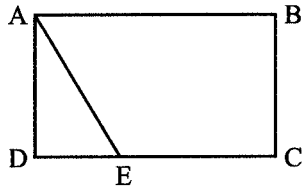
3. _____

4. The area of the shaded region is 276π square feet. The radius of the larger circle is 6 feet more than the radius of the smaller circle. What is the number of feet in the radius of the larger circle?

4. _____



5. \overline{AE} divides rectangle ABCD into two parts such that the ratio of the area of $\triangle ADE$ to the area of quadrilateral ABCE is 1:5. Find the ratio of \overline{DE} to \overline{EC} . Express your answer as a common fraction.



5. _____

6. A magic square is an array of numbers such that the sum of the elements in any row, column or diagonal is the same. Given that the sum of each row, column and diagonal in the magic square below is 15, what is the sum of a and b ?

$3a + 4b$	$a + 3b$	$a - 2b$
$a - 1$	$b + 6$	$2a + b$
$3a + 8b$	$2a - b$	$a + 2b$

6. _____

7. For positive integer k , when 60 is divided by k^2 , the remainder is 6. What is the remainder when 100 is divided by k ? 7. _____

8. An isosceles right triangle is inscribed in a circle of radius 4 inches. How many inches are in the perimeter of the triangle? Express your answer as a decimal to the nearest tenth. 8. _____