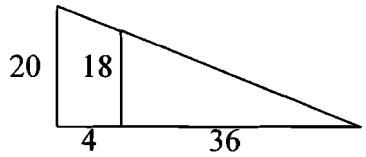
2005 HHS 7th Grade Ciphering

1-1 Find the GCF of the following: $36x^3$, $144x^2y^2$, $172x^4y^2$

1-2 Find the shaded area:
(units are in inches)

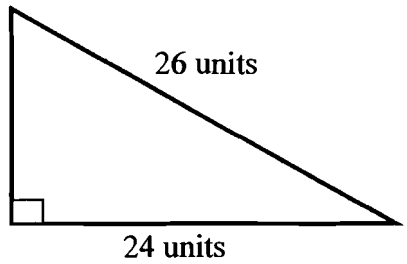


1-3 Evaluate: 4 – 4 (7 – 7 (3 – 3 (4 – 7 – 3))) =

1-4 12 is 1/3 % of what number?

1-5 The sum of Jack and Jill's ages is 92. If Jack is 4 years younger than Jill find the product of their ages.

2-1 Find the area of the triangle:



2-2 Find the average of the following values: x + 4 , 2x – 6 , 5 – 12x, 5 + x

2-3 A 66 in. tall man casts an 8 ft. 3 in. shadow. A second man casts a 9ft. shadow. How many inches taller is the second man?

2-4 On planet Meaotih, one pog is equal to two togs, three togs are equal to 4 rogs. How many pogs are equal to one rog?

2-5. How many positive, whole number factors does the number 24 have?

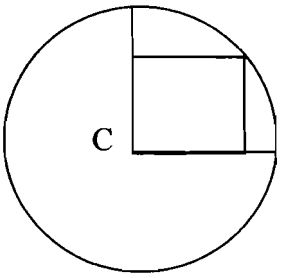
2005
7th Grade Ciphering Answers

1-1	$4x^2$
1-2	76
1-3	564
1-4	3600
1-5	2112
2-1	30
2-2	3x+2 or 2 + 3x
2-3	72
2-4	3/8 or .375
2-5	8
3-1	2.35713×10^5
3-2	19
3-3	8
3-4	35
3-5	$5/6$ or $.8\overline{3}$
4-1	$3/\pi$
4-2	5
4-3	-1
4-4	½ or .5
4-5	4
alt1	1000
alt2	21
alt3	50
practice	4/33

3-1. Express the answer in scientific notation: $2.394 \times 10^5 - 3.687 \times 10^3$

3-2. Drew's piggy bank has 37 coins in it. He only has dimes and quarters. If there is a total of $6.40 in his piggy bank, how many dimes does the piggy bank contain?

3-3. A square is drawn inside a circle with center C as shown:
If the area of the circle is 16π, find the area of the square.



3-4. How many diagonals does a decagon have?

3-5. Evaluate: $\dfrac{(6! - 5!)}{6!}$

4-1 Three tennis balls fit perfectly inside a cylindrical can. Find the ratio of the height of the can to the circumference of the can.

4-2 A and B are single digits that form the three digit numbers in the problem:
Find B

$$\begin{array}{r} A\ 3\ 4 \\ +\ \ \\ \underline{4\ 8\ A} \\ 6\ A\ B \end{array}$$

4-3 If $\dfrac{a}{a+b} = 2$ and $b = \dfrac{1}{2}$ find the value of a.

4-4 A circle has a radius of 4 units. Find the ratio of its circumference to its area.

4-5 Bob runs north at 12 mph. Sue runs south at 20mph. If they left from the same place at the same time, how many hours it take them to get 128 miles away from each other?

Alternate 1.

How many 5-digit zip codes can have a 4 at the beginning and a 3 at the end?

Alternate 2.

Two sides of a triangle are 9 and 13. What is the longest possible value for the third side that is a whole number?

Alternate 3.

The sum of the fist 50 positive odd integers subtracted from the sum of the first 50 positive even integers is _____ ?