Year 7 Mathematics 2012

Problem Solving Test

Total marks: 31   **Name**_____

Show your working for any question worth more than one mark.

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1. Work out the following two numbers:

   Which two numbers have a difference of 2 and a product of 48?   _____   _____   [1]

   Which two numbers sum to give 14 and multiply to give 45?   _____   _____   [1]

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2. In the question below, the circle, triangle and square represent different numbers. Use the clues below to determine what number each shape represents.

   Answer: Circle = _____ Triangle = _____ Square = _____ [3]

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3. What are all the odd 4-digit numbers you can make using the digits, 4, 5, 6, and 8 if you do not repeat a digit in a number?   [2]

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4. Mike uses 8 posts to build a fence covering a length of 56 metres. How far apart are each post?

   Answer(4) _____[2]

5. The Taylor family has 9 children. How many different pairs of children are possible? (Remember that a pair of children such as Adam and Bert is the same as Bert and Adam)

Answer(5) _____ [2]

6. Tamika steps into the lift on the second floor. She goes up 12 floors, down 5 floors, up 9 floors and down 3 floors. Then she steps out of the lift. What floor does she step out onto?

Answer(6) _____ [2]

7. Stuart owns a small farm with sheep and chickens. One day he counts his animals and finds that there are 9 heads in total and 24 legs in total. How many sheep does he own?

Answer(7) _____ [2]

8. In the town hall meeting room, I sit in the fourth row from the front, which is also the twelfth row from the back. Each row has 14 seats. How many people can be seated in the meeting room?

Answer(8) _____ [2]

9. Bruce is a professional woodcutter. He is able to cut one log into 7 pieces in 12 minutes. How long would it take him to cut one log into 4 pieces?

Answer(9) _____ [2]

10. Today Flo has 25 pens. Yesterday she bought 9 pens and gave 3 to her friend Amy. The day before, she divided all of her pens equally among 3 friends and herself. How many pens did Flo start with?

Answer(10) _____ [3]

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11. Nicole is twice as old as Bradley. Jennifer is 5 years older than Bradley. The sum of their ages is 41. How old are the 3 children?

Answer(11) Bradley:_____ Jennifer: _____ Nicole: _____ [3]

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12. Use the following clues to find five different numbers. (The numbers may be more than one digit)

CLUES
a. The sum of the five numbers is 91
b. The last number is triple the first number
c. The last 3 numbers are consecutive*
d. Only one number is odd
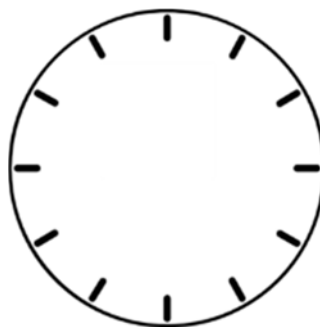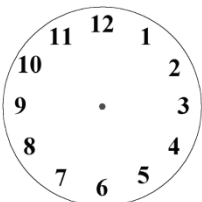e. The third number is the sum of the first two numbers

What are the numbers?
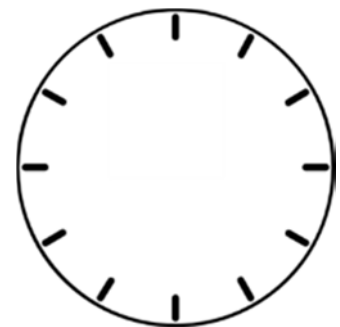
Answer(12) ____ ____ ____ ____ ____ [3]

*Consecutive – following one after the other in order eg. 7, 8, 9 are consecutive

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13. Rearrange the numbers on the clock's face so that all the sums of pairs of adjacent numbers (numbers which are next to each other) will be composite numbers between 7 and 17. [3]

Working   Final answer