

Maths Reading Station

Happy Spring Festival

Decorating with Spring Festival couplets is a tradition in China. James's grandpa believes that a handwritten couplet brings them luck, so he writes the couplets by himself every year to celebrate Lunar New Year.

James volunteers to help grandpa to write couplets this year. Grandpa tells James that a set of spring couplets is consisted of a left couplet, a right couplet and a horizontal scroll. There are usually four characters on the horizontal scroll. The numbers of characters on the left and right couplets should be the same. Each of them usually has five or seven characters. On each door hangs up a set of spring couplets.

After the introduction, grandpa guides James how to cut the red paper.



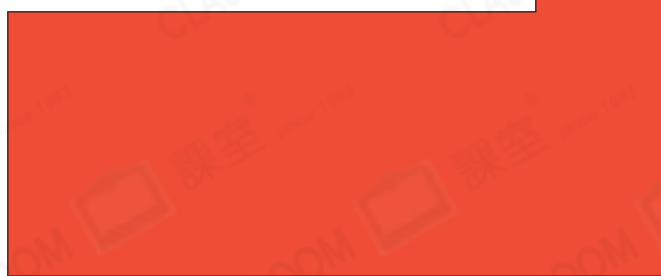
There are two pieces of red paper at home and three doors need to be decorated. We should cut out three equal-sized pieces of red paper as horizontal scrolls and six equal-sized pieces as left and right couplets.



45 cm

60 cm

60 cm



30 cm

120 cm

150 cm

James observes the two pieces of red paper's shapes and sizes. After calculation, He comes up with a perfect plan to cut them out.



Cut the smaller piece of red paper into three rectangles which are 60 cm long and 15 cm wide as horizontal scrolls. Then cut the larger piece of red paper into six rectangles which are 120 cm long and 15 cm wide as left and right couplets. There will be no waste of the red paper.

After hearing about James's plan, grandpa praises him for putting his knowledge to good use.



Grandpa writes on the paper carefully with an ink brush. Soon, the horizontal scroll with neat script is finished. James picks it up and appreciates it.

Although modern technology can print out better couplets, the handwritten couplets and the traditional cultural customs behind them can never be replaced by any machines.



Answer the following questions according to the article.

1. There are 14 characters on a pair of couplet. Grandpa finishes writing the couplet in 350 seconds. He spends _____ seconds on writing each character on average.
2. If you cut the smaller piece of red paper twice, you will get _____ isosceles triangles at most.
3. Draw straight lines on the grid to show the way James cuts the larger piece of red paper.

