

# The Regent Secondary School



## Mathematics Entrance Examination

### SPECIMEN PAPER A

### Entry to Year 7



**Non-Calculator**

**Duration : 1 hour**

<p>1. Work out <math>364 - 175</math></p>	
<p>2. Work out <math>25 \times 25</math></p>	
<p>3. New York is 12 degrees colder than Houston. If the temperature in Houston is seven degrees (<math>7^{\circ}</math>), what is the temperature in New York ?</p>	
<p>4. Write "Seven hundred thousand and two" in numbers.</p>	
<p>5. Give the decimal equivalent of <math>\frac{3}{4}</math></p>	

<p>6. Find <math>\frac{2}{3}</math> of 90</p>	
<p>7. Arrange 7.225, 7.4, 7.0999 and 7.52 in order of size.</p>	
<p>8. Work out <math>\frac{3}{4} - \frac{2}{3}</math></p>	
<p>9. The number <math>3\frac{1}{2}</math> is an example of a mixed number. Change the improper fraction shown into a mixed number.</p>	$\frac{17}{3} = \boxed{\phantom{00}} \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}}$
<p>10. Divide 765 by 5</p>	

11. Multiply 3.04 by 1000	
12. Find 40% of 70	
13. Add 2.17 to 23.5	
14. Fill in the missing number in the pair of equivalent fractions.	$\frac{\square}{20} = \frac{3}{5}$
15. Circle <u>ONE</u> prime number.	32      33      34 35      36      37 38      39      40

16. If 3 bags of coal cost \$15, how much will 7 of these bags cost?



17. Find a common multiple of 20 and 25.

18. What is the answer to the calculation shown?

$$32 - (7 + 5) \times 2$$

19. A shade of colour green is made by mixing of 4 buckets of blue with 3 buckets of yellow. To make the same shade of green, how many buckets of blue will we need if we 12 buckets of yellow ?

20. In the decimal number shown, the digit 1 is in the Thousand position. What position is the digit 5 in?

1234.567  
Thousand

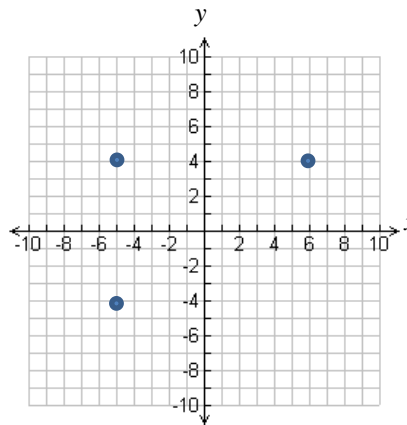
21. The first four numbers of a sequence have been written. What is the next number in the sequence?

29, 23, 17, 11,

22. The number zero has been placed in one of the two boxes. Place a number in the other box in order to have a correct statement.

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23. The three dots on the grid represent three corners of a rectangle. Clearly mark the fourth corner of the rectangle.



24. Write down the coordinate of the fourth corner you marked in question 23 above.

25. Based on the information given, what number will the sum of two mangoes represent?

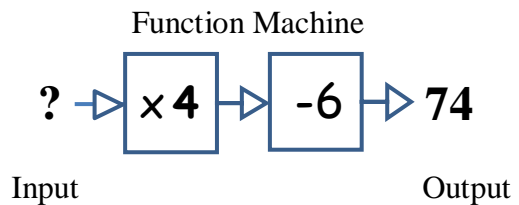
$$\begin{array}{r}
 \text{Apple} + \text{Banana} = 9 \\
 \text{Apple} + \text{Banana} + \text{Mango} = 15 \\
 \text{Mango} + \text{Mango} = \boxed{\phantom{00}}
 \end{array}$$

26. The first four numbers of a sequence have been written. What is the next number in the sequence?

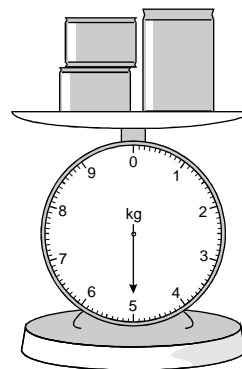
2, 6, 18, 54,

27. I am thinking of a number. If I multiply it by 5 then subtract 5, I get 65. What is the number I am thinking of?

28. An input goes into the two-step function machine shown, and generates an output of 74. Find the value of the input.



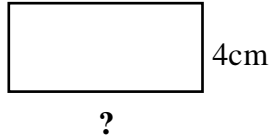
29. A big tin and two identical small tins weigh 5kg in total. If one small tin weighs 1.5kg, what does the big tin weigh?



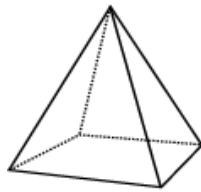
30. The pattern of symbols below is endless. What will the 38<sup>th</sup> symbol in this pattern be?

\* \$ % \* \$ % \* \$ % .....

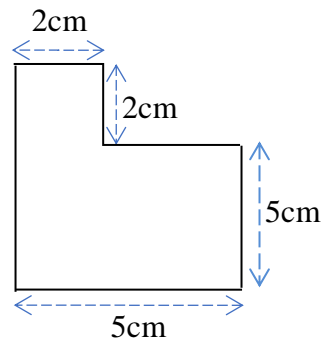
31. A rectangle's perimeter is 20cm and one pair of sides is 4cm long. How long is the other pair?



32. What is the name of this shape?



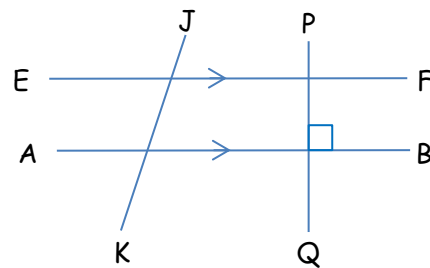
33. The shape is made from two squares with sides 5cm and 2cm. Calculate the perimeter of the shape.



..... cm

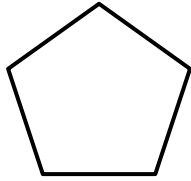
34. Four lines drawn in the diagram are Line EF, Line AB, Line JK and Line PQ.

Which line is parallel to Line AB?





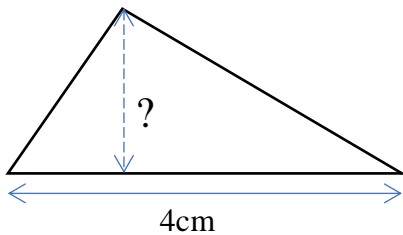
35. What is the name of this shape?



36. How many lines of symmetry does a rectangle have?

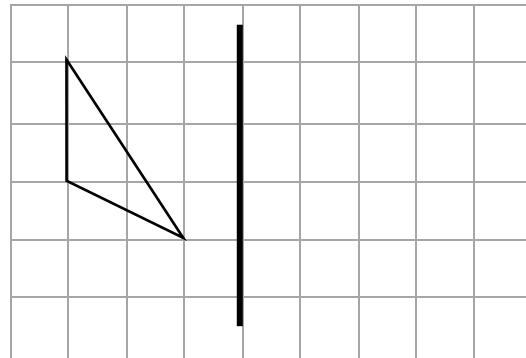


37. If the area of the triangle below is  $20\text{cm}^2$ , what is its height?



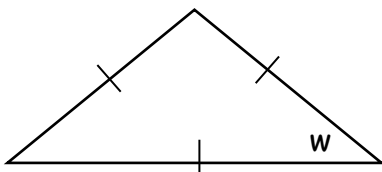
..... cm

38. Draw an accurate reflection of the triangle seen on the square grid.

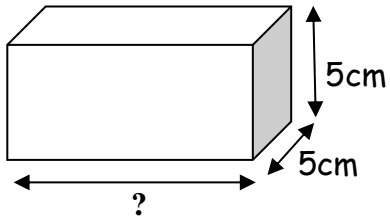


mirror  
line

39. The triangle below is equilateral. Calculate the size of the angle marked  $w$ ?



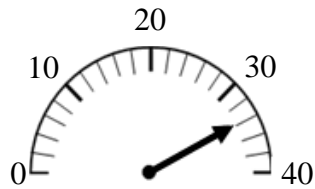
40. The cuboid has a square face with 5cm long sides, and volume of  $100\text{cm}^3$ .



What is the length of the cuboid?

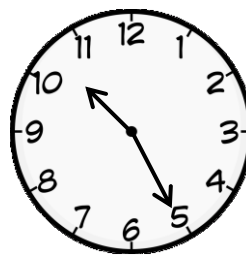
.....cm

41. What number is being indicated on the scale?



42. What would be an appropriate unit of measurement for the amount of water a bucket can hold?

43. What time is indicated on the analogue clock face?



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44. Fill in the missing number for the metric conversion shown.

$720\text{ cm} = \boxed{\phantom{000}}\text{ m}$

45. A movie starts at 14:35.  
If the movie is 1 hour and 30 minutes long, what time does it end ?

46. Circle the word which best describes the chance of any fair coin landing on tails when tossed?

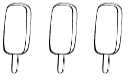


Even                      Unlikely  
Impossible  
Certain

47. The pictogram shows ice cream sales in a weekend.

18 ice creams sold on Saturday have been represented already.

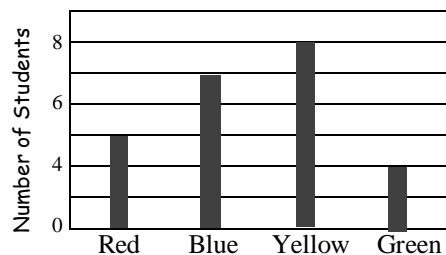
Complete the diagram to show that 30 ice creams were sold on Sunday.

Sat	
Sun	

48. What is the mean average of the set of numbers below?

7 , 1 , 2 , 3 , 1 , 4

49. The chart shows the record of the favourite colours of all the students in a class.  
Which two colours did exactly 11 students pick?



50. What number should be on the blank card if the range of the four numbers is 4 ?

