※ You will receive 1.5 points for each correct answer for problems 1 to 30.

1. Calculate the answer.

$$25 - 84 \div 6 + 3 \times 14$$

Ⓐ 49
Ⓑ 50
Ⓒ 51
Ⓓ 52
Ⓔ 53

2. Calculate the answer.

$$(13 - 6) \times (12 - (17 + 4) \div 3)$$

Ⓐ 33
Ⓑ 34
Ⓒ 35
Ⓓ 36
Ⓔ 37

3. Calculate the answer.

$$\begin{array}{r} 7.6 \\ +\ 1.8\ 2 \\ \hline \end{array}$$

Ⓐ 8.42
Ⓑ 8.52
Ⓒ 9.32
Ⓓ 9.42
Ⓔ 9.52

4. Calculate the answer.

$$1.94 + 15.6$$

Ⓐ 17.36
Ⓑ 17.54
Ⓒ 17.76
Ⓓ 17.94
Ⓔ 18.16

5. Calculate the answer.

$$\begin{array}{r} 9.3 \\ -\ 5.6\ 5 \\ \hline \end{array}$$

Ⓐ 3.65
Ⓑ 3.95
Ⓒ 4.25
Ⓓ 4.45
Ⓔ 4.65

6. Calculate the answer.

$$16.9 - 3.82$$

Ⓐ 12.8
Ⓑ 12.88
Ⓒ 12.96
Ⓓ 13.02
Ⓔ 13.08

7. Calculate the answer.

$$\begin{array}{r} 5.63 \\ \times \quad 1.5 \\ \hline \end{array}$$

Ⓐ 5.735
Ⓑ 6.245
Ⓒ 7.715
Ⓓ 8.445
Ⓔ 9.325

8. Find the greatest common factor for this set of numbers.

$$32,\ 24$$

Ⓐ 4
Ⓑ 6
Ⓒ 8
Ⓓ 10
Ⓔ 12

9. Find the greatest common factor for this set of numbers.

$$48,\ 120$$

Ⓐ 12
Ⓑ 24
Ⓒ 36
Ⓓ 40
Ⓔ 48

10. Find the greatest common factor for this set of numbers.

$$52,\ 65,\ 104$$

Ⓐ 13
Ⓑ 14
Ⓒ 15
Ⓓ 16
Ⓔ 17

11. Find the least common multiple for this set of numbers.

$$54,\ 72$$

Ⓐ 108
Ⓑ 144
Ⓒ 162
Ⓓ 216
Ⓔ 432

12. Find the least common multiple for this set of numbers.

$$21,\ 75$$

Ⓐ 515
Ⓑ 520
Ⓒ 525
Ⓓ 530
Ⓔ 535

13. Find the least common multiple for this set of numbers.

$$12,\ 20,\ 42$$

Ⓐ 400
Ⓑ 420
Ⓒ 440
Ⓓ 460
Ⓔ 480

14. Solve the fraction into its simplest form.

$$\frac{28}{63}$$

Ⓐ $\frac{1}{3}$
Ⓑ $\frac{3}{7}$
Ⓒ $\frac{4}{9}$
Ⓓ $\frac{4}{7}$
Ⓔ $\frac{7}{9}$

15. Solve the fraction into its simplest form.

$$\frac{36}{90}$$

Ⓐ $\frac{1}{5}$

Ⓑ $\frac{2}{9}$

Ⓒ $\frac{2}{5}$

Ⓓ $\frac{4}{9}$

Ⓔ $\frac{3}{5}$

16. Solve the fraction into its simplest form.

$$\frac{57}{152}$$

Ⓐ $\frac{23}{72}$

Ⓑ $\frac{9}{32}$

Ⓒ $\frac{9}{28}$

Ⓓ $\frac{3}{8}$

Ⓔ $\frac{3}{7}$

17. Calculate the answer.

$$7\frac{3}{5} + \left(4 - 2\frac{4}{5}\right)$$

Ⓐ $8\frac{3}{5}$

Ⓑ $8\frac{4}{5}$

Ⓒ $9\frac{2}{5}$

Ⓓ $9\frac{3}{5}$

Ⓔ $9\frac{4}{5}$

18. Calculate the answer.

$$6 - 3\frac{4}{11} + 1\frac{9}{11}$$

Ⓐ $3\frac{2}{11}$

Ⓑ $3\frac{6}{11}$

Ⓒ $3\frac{9}{11}$

Ⓓ $4\frac{3}{11}$

Ⓔ $4\frac{5}{11}$

19. Calculate the answer.

$$1\frac{3}{7} + 2\frac{9}{14}$$

Ⓐ $3\frac{5}{7}$

Ⓑ $3\frac{11}{14}$

Ⓒ $4\frac{1}{14}$

Ⓓ $4\frac{1}{7}$

Ⓔ $4\frac{3}{14}$

20. Calculate the answer.

$$2\frac{13}{15} + 3\frac{5}{9}$$

Ⓐ $6\frac{19}{45}$

Ⓑ $6\frac{4}{9}$

Ⓒ $6\frac{7}{15}$

Ⓓ $6\frac{23}{45}$

Ⓔ $6\frac{5}{9}$

21. Calculate the answer.

$$5\frac{3}{8} - 1\frac{11}{12}$$

Ⓐ $3\frac{5}{12}$

Ⓑ $3\frac{11}{24}$

Ⓒ $3\frac{1}{2}$

Ⓓ $4\frac{1}{12}$

Ⓔ $4\frac{2}{3}$

22. Calculate the answer.

$$2\frac{7}{9} \times 3\frac{3}{10}$$

Ⓐ $6\frac{7}{10}$

Ⓑ $7\frac{2}{9}$

Ⓒ $8\frac{1}{6}$

Ⓓ $9\frac{1}{6}$

Ⓔ $10\frac{3}{10}$

23. Calculate the answer.

$$2\frac{13}{18} \div 1\frac{1}{6}$$

Ⓐ $1\frac{1}{13}$

Ⓑ $1\frac{1}{9}$

Ⓒ $2\frac{1}{6}$

Ⓓ $2\frac{1}{4}$

Ⓔ $2\frac{1}{3}$

24. Calculate the answer.

$$\frac{5}{8} \times \frac{9}{14} \div 1.5$$

Ⓐ $\frac{15}{56}$

Ⓑ $\frac{2}{7}$

Ⓒ $\frac{17}{56}$

Ⓓ $\frac{9}{28}$

Ⓔ $\frac{19}{56}$

25. Calculate the answer.

$$3\frac{1}{9} \div 4.8 \div \frac{5}{12}$$

Ⓐ $1\frac{1}{2}$

Ⓑ $1\frac{5}{9}$

Ⓒ $1\frac{11}{18}$

Ⓓ $1\frac{2}{3}$

Ⓔ $1\frac{13}{18}$

26. Calculate the answer.

$$5.7\overline{)\,4\ 2.6}$$

Ⓐ 7.16 …… 0.004

Ⓑ 7.24 …… 0.036

Ⓒ 7.32 …… 0.046

Ⓓ 7.47 …… 0.021

Ⓔ 7.58 …… 0.014

27. Solve the equation.

$$(x \times 3.5) \div 4\frac{1}{5} = 2$$

Ⓐ $2\frac{1}{5}$

Ⓑ $2\frac{3}{10}$

Ⓒ $2\frac{2}{5}$

Ⓓ $2\frac{1}{2}$

Ⓔ $2\frac{3}{5}$

28. Solve the equation.

$$\left(x - \frac{3}{4}\right) \div 3 = 1\frac{11}{12}$$

Ⓐ $6\frac{1}{2}$

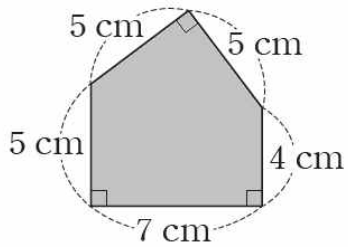
Ⓑ $6\frac{3}{4}$

Ⓒ $7\frac{1}{4}$

Ⓓ $7\frac{1}{2}$

Ⓔ $7\frac{3}{4}$

29. Find the area of the figure.



Ⓐ $40\ \text{cm}^2$

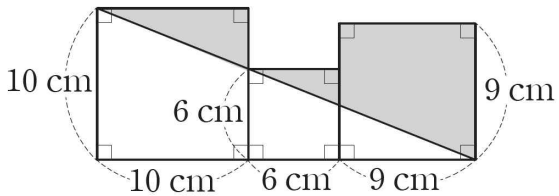
Ⓑ $41\ \text{cm}^2$

Ⓒ $42\ \text{cm}^2$

Ⓓ $43\ \text{cm}^2$

Ⓔ $44\ \text{cm}^2$

30. Find the area of the shaded section.



Ⓐ $90\ \text{cm}^2$

Ⓑ $91\ \text{cm}^2$

Ⓒ $92\ \text{cm}^2$

Ⓓ $93\ \text{cm}^2$

Ⓔ $94\ \text{cm}^2$

※ You will receive 2.0 points for each correct answer for problems 31 to 40.

31. George competed in a triathlon. If he swam 68 minutes, cycled 87 minutes, and ran 76 minutes, how many hours did George take in total? Write your answer in hr and min and then add the two numbers. (For example, if the answer is 1hr 23min, then write as 1＋23＝24.)

_____

32. There is a rhombus shaped road sign. When one diagonal length of this road sign is 38cm and the other diagonal length is 21cm, what is the area of this road sign?

_____ cm^2

33. The average weight of a newborn baby is 3.286kg. Steven was born 0.148kg heavier than the average weight, how much did he weigh when he was born? Write down only the decimal part of the answer. (For example, if the answer is 1.234kg write down as 234.)

_____

34. Vincent swam 50 meters in 31.365 seconds. Kate was faster than Vincent by 1.896 seconds. How many seconds did Kate take to swim 50 meters? Write down only the decimal part of the answer. (For example, if the answer is 1.234 seconds write down as 234.)

_____

35. Ellie has 192 candies and 204 chocolates. She tries to distribute the candies and chocolates equally to as many students as possible. What is the sum of the number of candies and chocolates one student gets?

_____

36. Odin tries to plant sunflower seeds every 63m in a straight line from the mailbox in front of his house and dandelion seeds every 28m. How many meters away from the mailbox are sunflower seeds and dandelion seeds planted in the same place for the first time?

_____ m

37. Jordan milked $5\frac{3}{8}$L of milk from a cow. Of this, he drank $\frac{2}{3}$L and used $2\frac{3}{4}$L to make cheese. How many liters of milk were left? If the answer is $A\frac{C}{B}$L, write the sum $A+B+C$. (Note that $\frac{C}{B}$ is an irreducible fraction.)

_____

38. Erica studied math for $1\frac{1}{3}$ hours and English for $\frac{3}{4}$ hours. How many minutes did she study?

_____ minutes

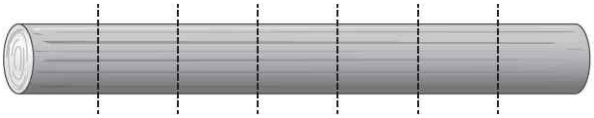
39. A box of apples weighs $3\frac{2}{5}$kg and a box of oranges weighs $1\frac{1}{4}$ times the weight of a box of apples. There are 17 apples in a box of apples and 25 oranges in a box of oranges. How many grams does an apple weigh more than an orange? (Do not consider the weight of the empty box.)

_____ g

40. Kevin has 165.75cm of tape. He wants to cut this tape equally at 6.625 cm intervals. After cutting as much as possible, how much tape is left? Write down only the decimal part of the answer. (For example, if the answer is 1.234cm, write down as 234.)

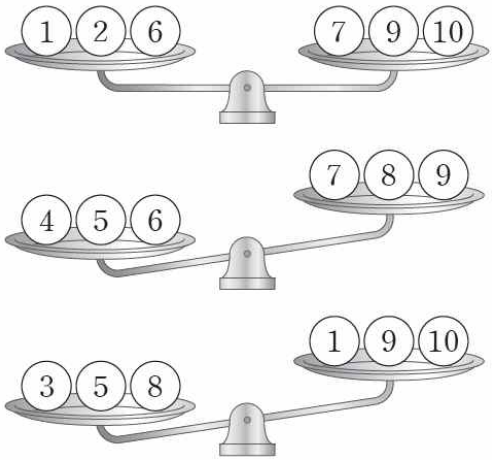
_____

41. A log has a uniform diameter. It takes an hour to cut the log into 16 pieces. How many minutes would it take to cut the log into 7 pieces? [2.3 points]



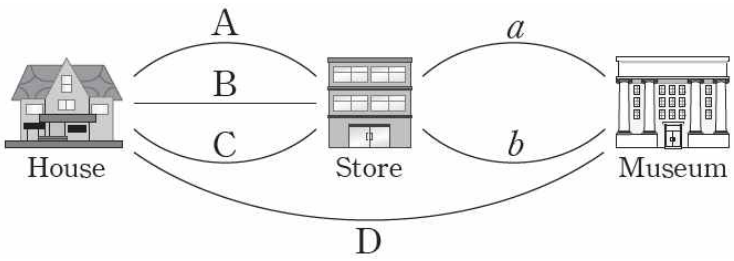
Answer : _____ minutes

42. There are 10 marbles and a balance. Nine of the marbles have the same weight, and the other one is slightly different. Write the number of the marble that has a different weight. [2.3 points]



Answer : _____

43. The picture below shows different ways to travel from the house to the museum. How many different ways can you travel from the house to the museum? [3.3 points]



Answer : _____

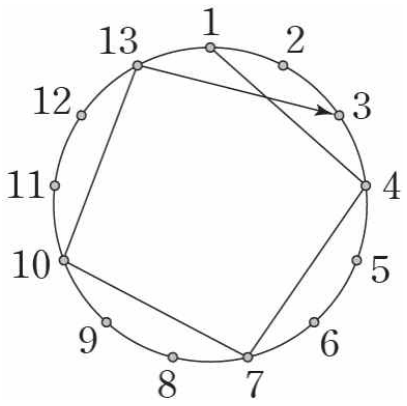
44. Hazel, Michael, Nadia, and Russell are standing in a line. Read the following statements and answer the question.

- Nadia is 4.9m behind Hazel.
- Michael is 5.4m ahead of Russell.
- Russell is 8.2m behind Hazel.

By how many centimeters is Michael ahead of Nadia? [3.3 points]

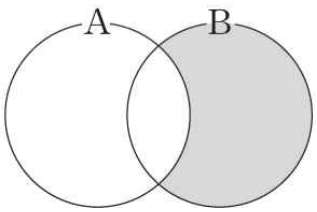
Answer : _____ cm

45. The circle has the numerals 1 to 13 arranged in order along the circumference. Create a sequence by connecting the numerals with an →, beginning from 1 and skipping forward to 4 as indicated. What numeral location is reached after the 12th step? [3.3 points]



Answer : _____

46. Look at the Venn diagram shown below. What would be the sum of all the numbers in the shaded area? [3.3 points]



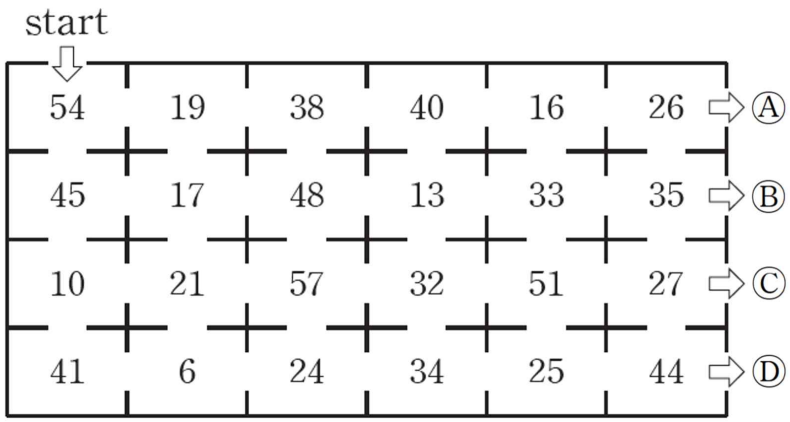
A: Natural numbers that are less than 8
B: The positive divisors of 24

Answer : _____

47. Find how many times the numeral 0 is used to write the numbers from 10 through 200. [4.3 points]

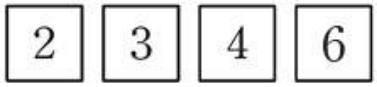
Answer : _____ times

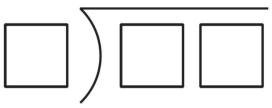
48. In the maze shown below, if you divide each number by 9 and the remainder increases by 1 each time, you can move to that square next to find the exit. Which exit, numbered Ⓐ to Ⓓ, would you take to get out of the maze? [4.3 points]



Answer : _____

49. You should use three of the following four numbers to create a division problem which does not have any remainder. How many possible division problems can you have? [4.3 points]

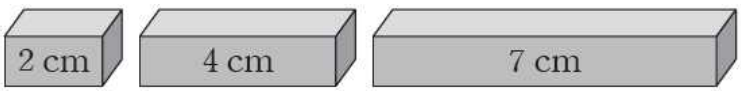




Ⓐ 6 Ⓑ 8 Ⓒ 10 Ⓓ 12

Answer : _____

50. Three sticks measure 2cm, 4cm, and 7cm each. What is the sum of the natural number lengths from 1cm to 13cm that cannot be measured by these three sticks? [4.3 points]



Ⓐ 30cm Ⓑ 31cm Ⓒ 32cm Ⓓ 33cm

Answer : _____