※ YOU CAN RECEIVE 1.5 POINTS EACH FOR PROBLEMS NUMBER 1 TO 30.

In problems 1-6, solve each question. Then add the quotient and the remainder as your answer. (For example, if the quotient is 5 and the remainder is 0, then the final answer is $5+0=5$. If the quotient is 12 and the remainder is 8, then the final answer is $12+8=20$.)

1.

$$7\overline{)\,8\ 4}\quad 12\text{R}0$$

ANSWER: 12

2.

$$8\overline{)\,9\ 8}\quad 12\text{R}2$$

ANSWER: 14

3.

$$32\overline{)\,2\ 3\ 6}\quad 7\text{R}12$$

ANSWER: 19

4.

$$46\overline{)\,3\ 9\ 7}\quad 8\text{R}29$$

ANSWER: 37

5.

$$63\overline{)\,3\ 7\ 3}\quad 5\text{R}58$$

ANSWER: 63

6.

$$72\overline{)\,3\ 0\ 1\ 2}\quad 41\text{R}60$$

ANSWER: 101

In problems 7-13, calculate the answer.

7. $40 \div (5+3) \times 7 = 35$

8. $6 \times 8 - 9 + 12 \div 3 = 43$

9. $(23+5) \div 4 - 15 \div 5 = 4$

10. $41 - 4 \times 6 \div 8 = 38$

11. $(82-47) \div 5 + 3 \times 4 = 19$

12. $67 - 2 \times 9 + 42 \div 6 - 28 = 28$

13. $(74-26)\div((12-8)\times 6-16)$ $=6$

In problems 14-16, solve each question. Then add all the numbers of different units. (For example, if the answer is $3(\text{km, kg, L})$ $54(\text{m, g, mL})$, then write the final answer as $3+54=57$.)

14.

$$\begin{array}{rrr} & 6\text{ km} & 254\text{ m} \\ - & 3\text{ km} & 410\text{ m} \\ \hline & 2\text{ km} & 844\text{ m} \end{array}$$

ANSWER: 846

15.

$$\begin{array}{rrr} & 4\text{ kg} & 830\text{ g} \\ + & 2\text{ kg} & 440\text{ g} \\ \hline & 7\text{ kg} & 270\text{ g} \end{array}$$

ANSWER: 277

16.

$$\begin{array}{rrr} & 14\text{ L} & 150\text{ mL} \\ - & 4\text{ L} & 480\text{ mL} \\ \hline & 9\text{ L} & 670\text{ mL} \end{array}$$

ANSWER: 679

17. Express the following time in hours (A), minutes (B), and seconds (C), then find the sum of A, B, and C.

9506 seconds

2hr 38min 26sec

66

In problems 18-19, solve each question. Then add all the numbers of different units. (For example, if the answer is $7\text{hr }34\text{min }23\text{sec}$, then write the final answer as $7+34+23=64$.)

18.

$$\begin{array}{rrrr} & 2\text{ hr} & 51\text{ min} & 39\text{ sec} \\ + & 7\text{ hr} & 38\text{ min} & 47\text{ sec} \\ \hline & 10\text{ hr} & 30\text{ min} & 26\text{ sec} \end{array}$$

ANSWER: 66

19.

$$\begin{array}{rrrr} & 5\text{ hr} & 22\text{ min} & 45\text{ sec} \\ - & 3\text{ hr} & 45\text{ min} & 50\text{ sec} \\ \hline & 1\text{ hr} & 36\text{ min} & 55\text{ sec} \end{array}$$

ANSWER: 92

In problems 20-21, write each fraction into its simplest form. Then add the numerator and the denominator. (For example, if the answer is $\frac{2}{3}$, then write the final answer as $2+3=5$.)

20. $\frac{32}{72} = \frac{4}{9}$

ANSWER: 13

21. $\frac{60}{144} = \frac{5}{12}$

ANSWER: 17

In problems 22-27, solve each equation as a proper fraction or a mixed number in its simplest form. Then write the numerator. (For example, if the answer is $3\frac{10}{6}$, make $4\frac{2}{3}$ and write the final answer as 2.)

22. $5\frac{4}{11} - 2\frac{7}{11} = 2\frac{8}{11}$

ANSWER: 8

23. $3\frac{5}{9} + \left(2\frac{2}{9} - 1\frac{4}{9}\right) = 4\frac{1}{3}$

ANSWER: 1

24. $3\frac{5}{14} + 1\frac{9}{10} = 5\frac{9}{35}$

ANSWER: 9

25. $4\frac{1}{6} - 2\frac{7}{18}$ $= 1\frac{7}{9}$

ANSWER: 7

26. $2\frac{1}{4} \times 4\frac{1}{6}$ $= 9\frac{3}{8}$

ANSWER: 3

27. $\frac{12}{13} \div 6.8 \times 3\frac{2}{5}$ $= \frac{6}{13}$

ANSWER: 6

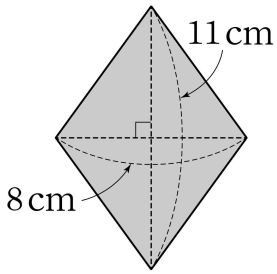
28. Solve the question. Then write the decimal part as your answer. (For example, if the answer is 18.2 or 18.20, then write the final answer as 2. If the answer is 2.54 or 2.054, then write the final answer as 54.)

$\boxed{13.2 - 5.32}$

$= 7.88$

ANSWER: 88

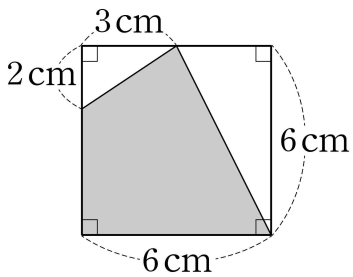
29. Find the area of the trapezoid.



$\boxed{44}$ cm^2

$(11 \times 8) \div 2 = 44$

30. Find the area of the shaded section.



$\boxed{24}$ cm^2

$(6 \times 6) - (2 \times 3 \div 2) - \{(6 - 3) \times 6 \div 2\}$
$= 24$

party, $1\frac{3}{8}$ L of orange juice was left, $\frac{13}{8}$ L of apple juice was left, and $\frac{9}{8}$ L of mango juice was left. Which juice has the least amount left? For this juice, write down the sum of the denominator and numerator of the mixed fraction in simplest form. (For example, if the answer is $\frac{11}{4}$, make $2\frac{3}{4}$ and write down 3 + 4 = 7).

_____

$\frac{9}{8}=1\frac{1}{8}<1\frac{3}{8}<1\frac{5}{8}=\frac{13}{8}$

[answer] 1+8=9

39. Gina is going to decorate a 24 cm by 18 cm rectangle using squares of colored paper. The squares should be the same size and should not overlap. How long is the side of the largest squares that she could use to fill the rectangle completely?

_____ cm

$GCF(24, 18) = 6$

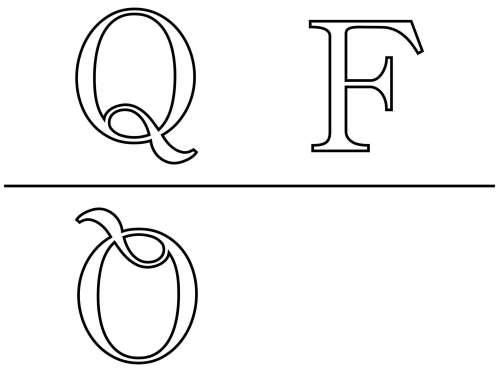
40.. A rectangle has a base of $11\frac{1}{4}$ cm and a height of $7\frac{1}{5}$ cm. What is the perimeter of this rectangle in centimeters? Write down the sum of the denominator and the numerator of the mixed fraction in its simplest form. (For example, if the answer is $7\frac{8}{9}$, write down as 8 + 9 = 17.)

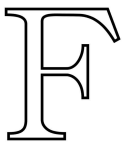
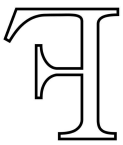
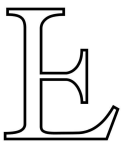
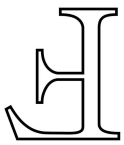
_____

$11\frac{1}{4}+7\frac{1}{5}+11\frac{1}{4}+7\frac{1}{5}=36\frac{18}{20}=36\frac{9}{10}$

[answer] 9+10=19

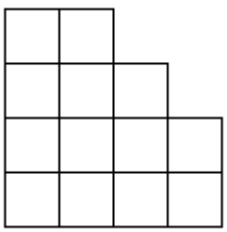
41. The shapes above and below the line follow a pattern. Based on the pattern, which shape belongs in the blank space? [2.3 points]



① 
② 
③ 
④ 

Answer : _____

42. In the following figure, how many large and small squares can you find in total? [2.3 points]

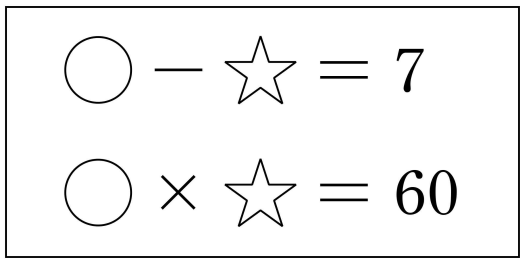


Answer : _____ squares

43. Ken gets into an elevator. He goes up 3 floors, down 5 floors, and then up 10 floors, which puts him at the top floor. Then he goes down 9 floors, up 6 floors, and down 12 floors, which puts him at the first floor. At which floor number did Ken get on the elevator? [3.3 points]

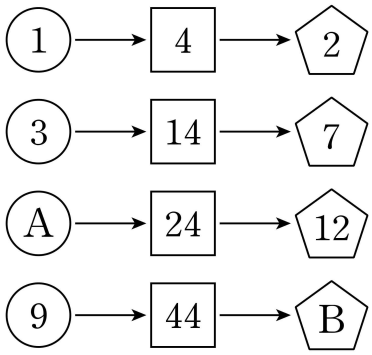
Answer : _____th floor

44. Two numbers ◯ and ☆ have a difference of 7 and a product of 60.
What is the sum of ◯ and ☆? [3.3 points]



Answer : _____

45. The three numbers in each row follow a certain rule. If you put the correct numbers in A and B, what is A+B? [3.3 points]



Answer : _____

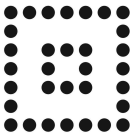
46. Amy, Bonnie, Clara, and Dorothy ran in a race. Referring to the following statements, find the person who won the race. [3.3 points]

(1) In the first lap, Amy took the lead.
(2) Two girls overtook Amy in the next lap.
(3) Amy overtook Bonnie.
(4) Clara overtook Bonnie.
(5) There were no other overtaking events.

① Amy ② Bonnie ③ Clara ④ Dorothy

Answer : _____

47. In the following figures, dots are arranged using a certain rule. How many dots should be arranged in the last figure? [4.3 points]

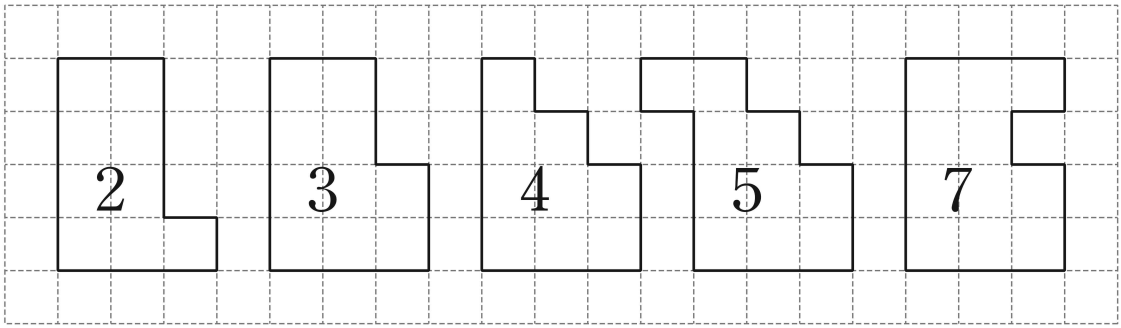
					
1	8	17	32	49	?

Answer : _____ dots

48. There are five number cards as below. Among the 3-digit numbers you can make using three different cards, how many even 3-digit numbers are possible? [4.3 points]

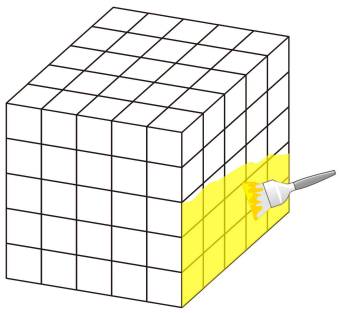
Answer : _____

49. Find the product of the numbers written on the figures which can be symmetrical when one square is removed. [4.3 points]



Answer : _____

50. The following big cube was made using 125 blocks. If you paint the whole surface of the big cube, the inner blocks will not be painted. Find the difference between the number of painted blocks and unpainted blocks. [4.3 points]



Answer : _____