1

Sample Exam 12 – Solutions

Session 12

SECTION I

Hundred

0

Tens

6

1. Write in words:

Hundreds of

Thousands

5

Tens of

Thousands 7

Answer	Five hundred and sevent	v-one thousand	l and sixty-eight

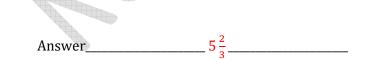
Thousand

1

2. Express $\frac{51}{9}$ as a mixed number.

 $51 \div 9 = 5$ remainder 6 (how many groups of 9 can you get from 51?) The answer (excluding the remainder) represents the whole number in the mixed number. Whole number = 5

The remainder becomes the numerator in the mixed number and is placed over the denominator of the proper fraction: $\frac{6}{9} = \frac{2}{3}$





[1]

Ones

8

Total: 75 marks

[1]

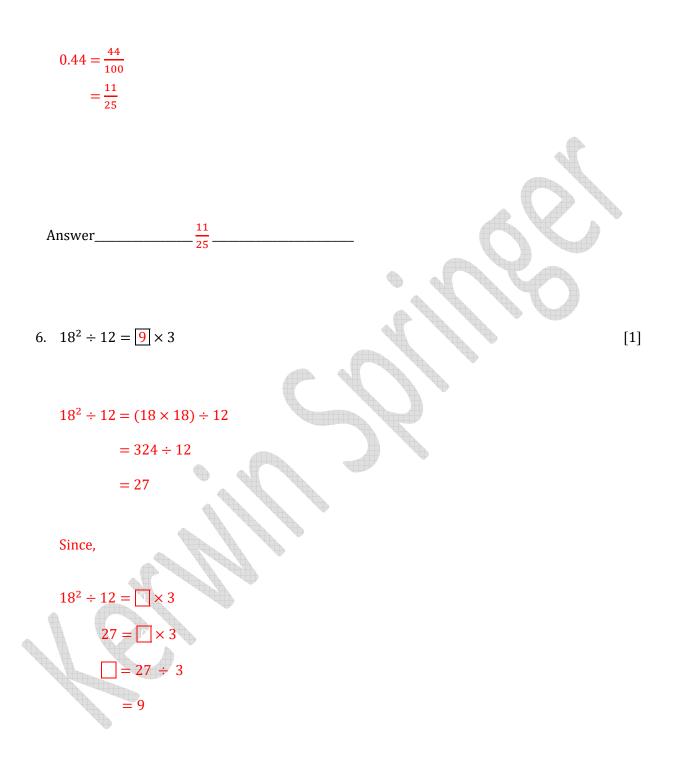


3. The students of the Standard 5 classes were equally divided into 6 groups for the school excursion.If there were 96 students in total, how many students were in each group? [1]

```
Total number of students = 96 students
    Number of groups = 6 groups
    Number of students in each group = \frac{\text{Total number of students}}{\text{Number of groups}}
                                         =\frac{96}{6}
                                         = 16 students
    Answer_____16___
                                                         students
4. If \frac{7}{11} of a number is 119, what is the number?
                                                                                                    [1]
   \frac{7}{11} of number = 119
    Number =
                 _____187 _____
 Answer_
```



5. Express 0.44 as a common fraction.





- 7. Complete the number pattern below.
 - 2 , 8 , 20 , 38 , _62 _

Let's observe the pattern:

8 - 2 = 620 - 8 = 1238 - 20 = 18

We can see that the number being added to each consecutive term is a multiple of 6. Therefore, 38 + 24 = 62

8. Subtract 2.84 from 9.63.

[1]



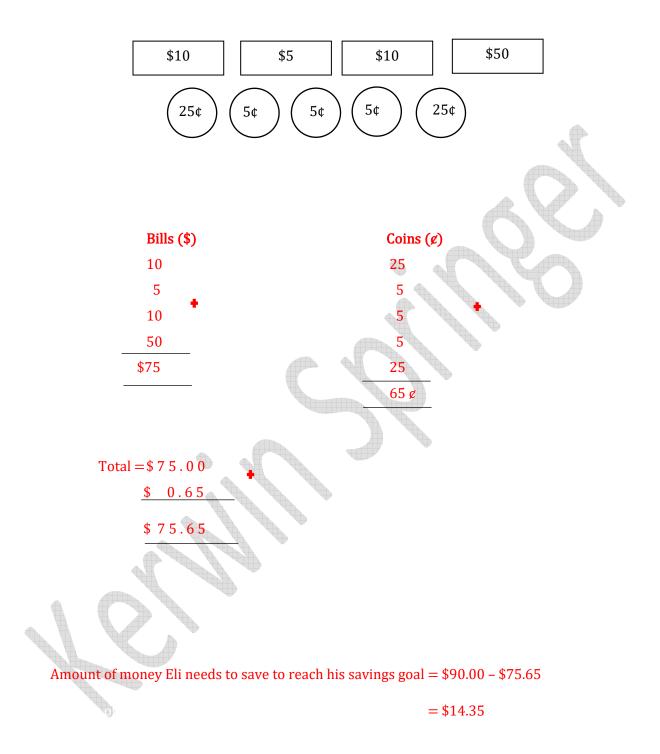
2.84 6.79

0.79		
Answer_	6.79	
Allswei_		



9. Eli saved the money shown below.

How much more money does he need to save to reach his savings goal of \$90.00? [1]





10. Mr Springer bought 14 dozen cupcakes to be shared equally among his 7 Mathematics classes.How many cupcakes will each class get? [1]

14 dozen cupcakes = 14×12 = 168 cupcakes

Number of mathematics classes = 7 classes

Number of cupcakes each class will get = $\frac{\text{Total number of cupcakes}}{\text{Number of mathematics classes}}$ = $\frac{168}{7}$ = 24 cupcakes

Answer 24 cupcakes

11. Write down the MOST appropriate standard unit for recording the length of a school's playground.

Answer_____metres _____

12. Complete the statement below.

[1]

[1]

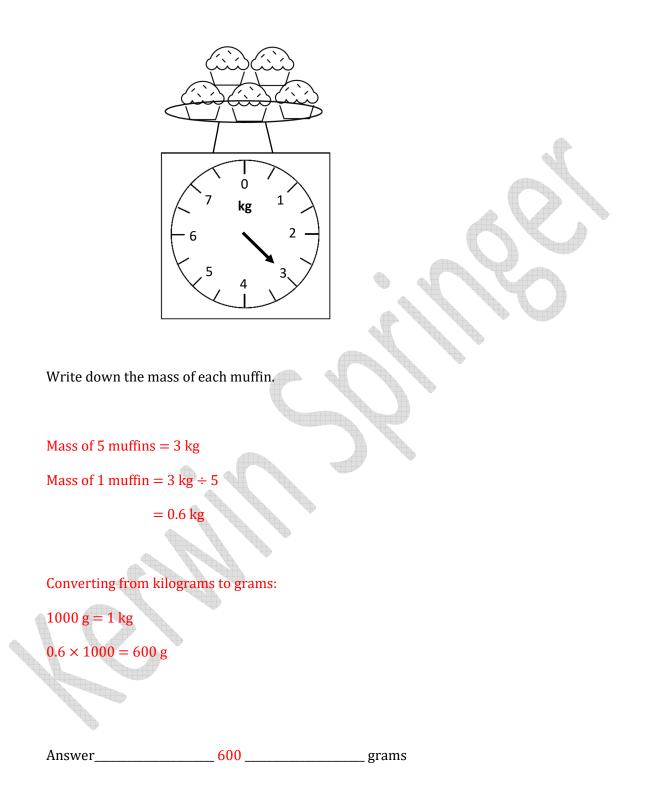
Converting from centimetres to metres

100 cm = 1 m

 $409 \div 100 = 4.09 \text{ m}$



13. Crissa used the scale below to record the mass of five identical muffins.



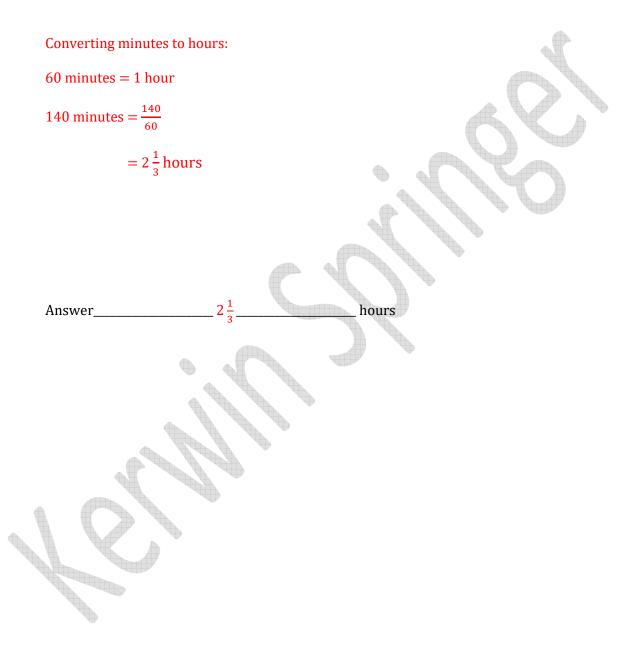


14. Jonathan's journey from Oropouche to Las Cuevas took 140 minutes.

How many HOURS did his journey take?

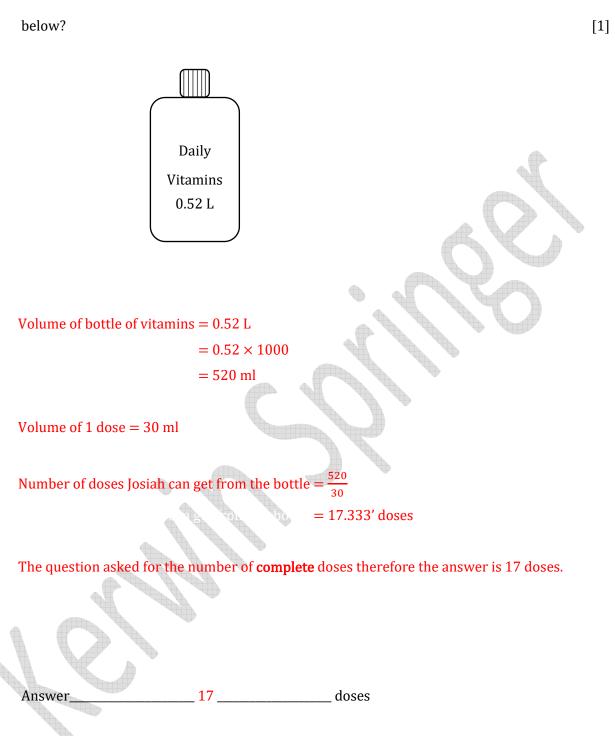
[1]

Duration of Jonathan's journey = 140 minutes





15. How many complete 30 ml doses would Josiah get from his bottle of vitamins shown





[1]

16. Sian purchased some of the items as advertised below.

Scissors 2 pairs for \$15

Rulers

3 for \$7

She buys 4 pairs of scissors and pays with a \$50.00 bill.

How many rulers can she buy with the remainder of the money if they are only sold in bundles and not separately?

2 pairs of scissors = \$154 pairs of scissors = $2 \times 15 = \$30

Remaining money = \$50.00 - \$30.00= \$20.00

Number of sets of rulers she can purchase $=\frac{20}{7}$

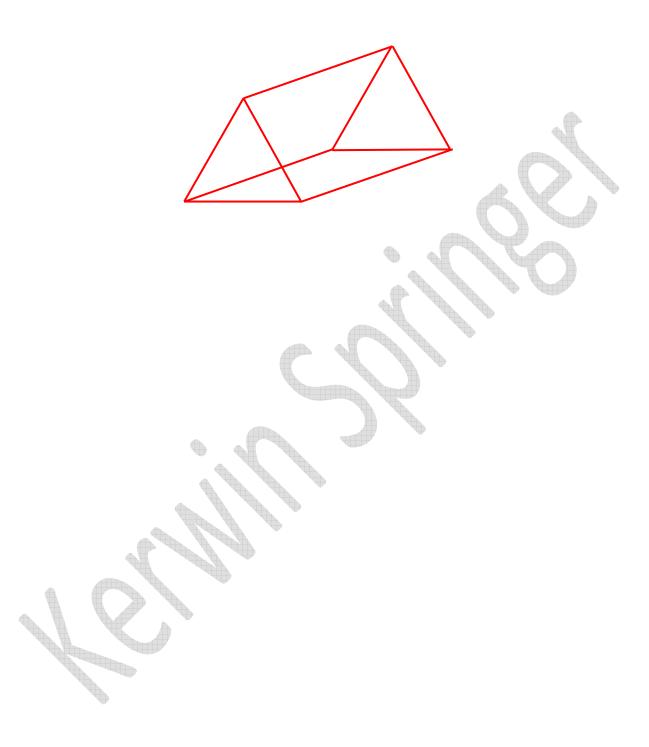
= 2 sets

1 set of rulers = 3 rulers 2 sets of rulers = 2×3 = 6 rulers

Answer_____6____rulers

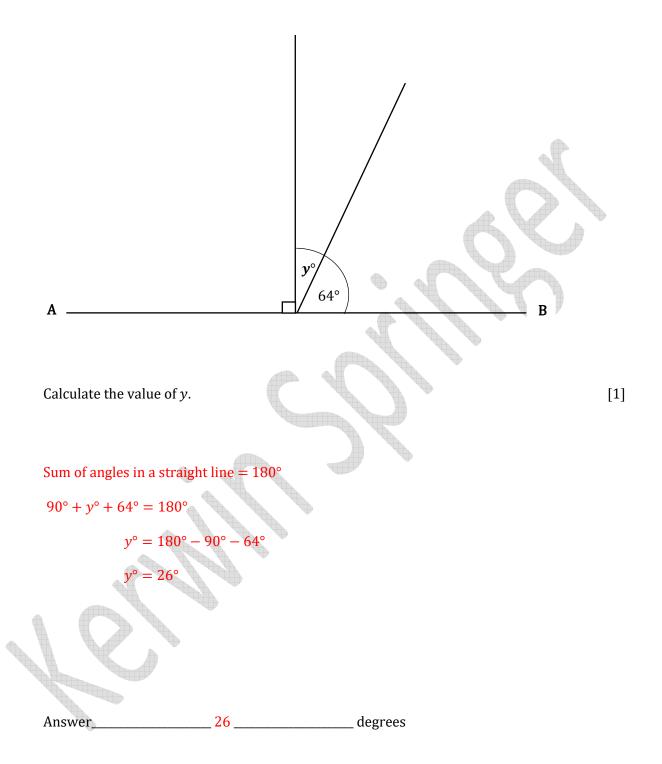


17. Draw a Triangular Prism below.





18. The diagram below shows three angles. AB is a straight line.





[1]

19. The mean of 10, 16 and 34 is the same as the mean of 22 and **a**. What number does **a** represent?

Mean of 10, 16 and 34 =
$$\frac{\sup of 10,16 \text{ and } 34}{\operatorname{frequency}}$$

= $\frac{10 + 16 + 34}{3}$
= $\frac{60}{3}$
= 20
10, 16 and 34 has the same mean as 22 and a.
Mean of 22 and a = 20
Sum of 22 and a = Mean of 22 and a × frequency
= 20×2
= 40
Therefore, a = 40 - 22
= 18
Answer______18______



20. The table below shows the number of practice tests completed by 4 students over the course of one month.

Student	Practice Tests Completed	
Shinia	$\bigtriangleup \bigtriangleup \blacktriangle$	
Terryn	$\bigtriangleup \bigtriangleup \bigtriangleup$	
Rylee		\bigcirc
Khyla	$\bigtriangleup \bigtriangleup \bigtriangleup \bigtriangleup$	
	= 6 practice tests	
	$C \land V \land$	

How many practice tests did the 4 students complete altogether?

[1]



Since / = 6 p

= 6 practice tests

Total number of practice tests completed by the 4 students = 11.5×6

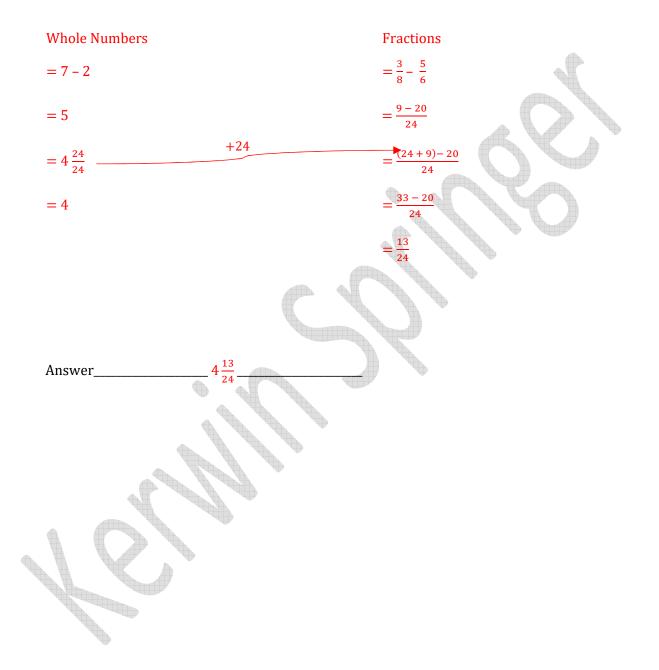
= 69 practice tests

Answer______69 _____ practice tests



SECTION II







22. (a) Arrange the following numbers in ASCENDING order (smallest first).

5 274, 5 724, 5 742, 5 247

Th	Н	Т	0
5	2	7	4
5	7	2	4
5	7	4	2
5	2	4	7

The first digit, the thousands digit, is the same for all numbers. So, we look at the next digit, which is the hundreds digit. 5 274 and 5 247 both had 2 hundreds and so they are smaller than the other two numbers.

We next look at the tens column where 7 tens are present in 5 274 making it larger than 5 247.

Answer______ 5247 , 5274 , 5724 , 5742 _____

(b) What is the SMALLEST even number in the list above?

[1]

An even number is a number which ends in 0. 2, 4, 6 and 8.

Based on the list given the even numbers are 5 274, 5 724 and 5 742.

The smallest even number is 5 274 since it has 2 hundreds.

Answer_____5274_____



23. For every 4 tasks that Mia completes, Shantel completes 9. Shantel eventually completes 45 tasks.Calculate how many tasks Mia completed. [2]

Shantel completed 45 tasks.

For every 4 tasks that Mia completes, Shantel completes 9.

Number of groups of "9" in $45 = 45 \div 9$

= 5

Number of tasks Mia completed = 5×4

= 20 tasks

Answer_____20 ____tasks

24. Kareena bought a pack of erasers containing 30 erasers for \$42. She then sold the erasers in a singular fashion and made a profit of \$18.

What was the selling price of each eraser?

[2]

Cost Price of 30 erasers = \$42.00

Profit made from selling erasers in a singular fashion = \$18.00

Selling Price of 30 erasers = Cost Price + Profit

$$= $42.00 + $18.00$$
$$= $60.00$$

Therefore, selling price of 1 eraser = $60.00 \div 30$

= \$2.00



25. In a birthday party, each attendee was given 6 chocolates and 2 cupcakes. If a total of 264 chocolates and cupcakes were distributed, how many attendees were present? [2]

Each attendee received = 6 + 2= 8 items Altogether, 264 items were distributed at the party. Number of attendees $=\frac{264}{8}$ = 33 attendees Answer_____ 33 attendees



26. The Ali family went out to dine in a restaurant. The total cost of the items they ordered was \$840. If they are required to pay 12.5% VAT and 10% service charge based on the total cost of their items, what will be the final amount paid to the restaurant?

Cost of items = \$840

VAT = 12.5% of \$840 $= \frac{12.5}{100} \times \frac{\$840}{1}$ = \$105

Service charge = 10% of \$840

 $=\frac{10}{100} \times \frac{\$840}{1}$ = \$84

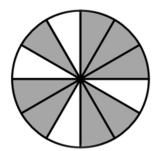
Final amount to be paid to the restaurant = Total cost of items + VAT + Service Charge

	\$840 + \$105 + \$84
Dan in Sh	= \$1 029
Answer \$1029	

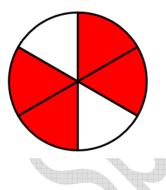


[1]

27. Kaveer shaded part of the shape below to represent a fraction.



(a) Shade the shape below to represent the equivalent fraction to Kaveer's.



(b) Use the fractions and an explanation to tell how you know that your answer is correct. [2]

Total number of parts in Kaveer's shape = 12 parts Number of shaded parts in Kaveer's shape = 8 parts Fraction of Kaveer's shape that is shaded = $\frac{8}{12}$

Total number of parts in the shape in part (a) = 6 parts Number of shaded parts in in the shape in part (a) = 4 parts Fraction of part (a)'s shape that is shaded = $\frac{4}{6}$

 $\frac{4 \times 2}{6 \times 2} = \frac{8}{12}$

Answer: My answer is correct as $\frac{4}{6}$ and $\frac{8}{12}$ are equivalent fractions as seen above



- 28. Janiah decided to organize the 40 pens on her study desk by placing them in a small case. She has three times as many blue pens as red pens.
 - (a) Complete the table below to show the number of blue and red pens in the case. [2]

Colour	Number of pens	
Blue	18	
Black	16	>
Red	6	\bigcirc
	TOTAL = 40 PENS	\mathbf{O}

Total number of pens = 40 pens

Janiah has three times as many blue pens as red pens.

3 parts blue pens + 1 part red pens = 4 parts

Number of blue and red pens = Total number of pens - Number of black pens

= 40 - 16

= 24 pens

4 parts = 24 pens

 $1 \text{ part} = 24 \div 4$

1 part = 6 pens

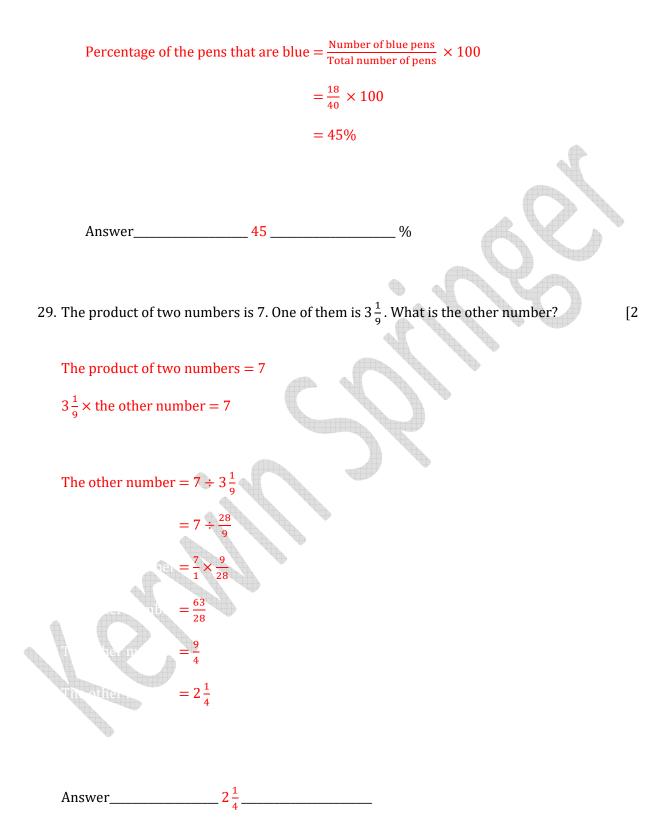
Number of red pens = 1 part = 6 red pens

Number of blue pens = 3 parts = 3×6

= 18 blue pens

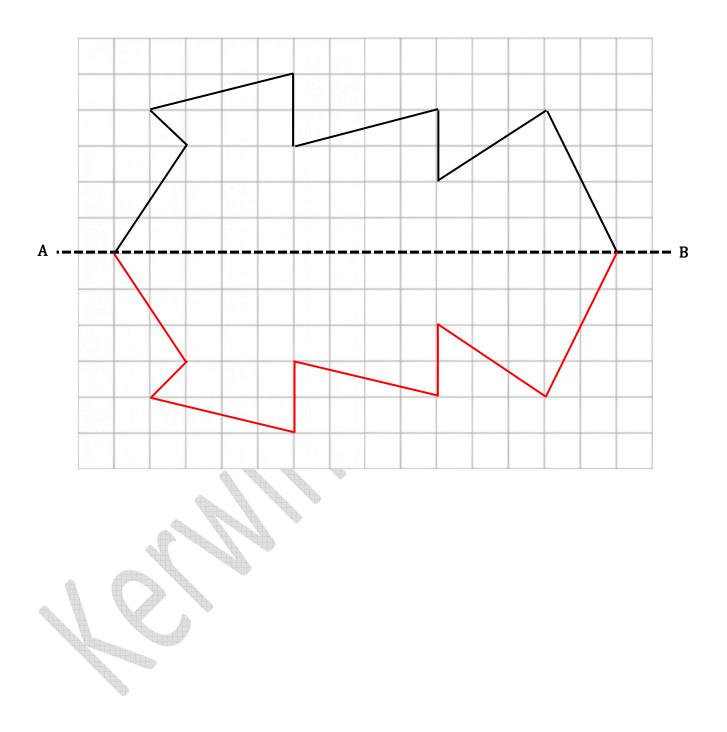


(b) What percentage of the pens are blue?





30. In the following diagram, the dotted line *AB* is a line of symmetry for the incomplete shape.[3]





- 31. Anna purchased 25 metres of embroidery floss to construct some dream catchers. Each dream catcher required 375 centimetres of floss for its construction.
 - (a) Anna used 18.75 metres of embroidery floss to make the dream catchers. Calculate how many dream catchers Anna made.
 [1]

Length of embroidery floss Anna used = 18.75 m = 1875 cm Length of embroidery floss required for one dream catcher = 375 cm Number of dream catchers Anna made = $\frac{\text{Length of embroidery floss Anna used}}{\text{Length of embroidery floss required for one dream catcher}}$ = $\frac{1875}{375}$ = 5 dream catchers

Answer_____5 ____dream catchers

(b) Anna's daughter took the remaining embroidery floss to make necklaces for her friends. If one necklace was made using 40 centimetres of floss, how many necklaces were made?
 [2]

Total length of embroidery floss = 25 m= 2500 cm

Length of embroidery floss Anna used = 1875 cm Remaining embroidery floss = 2500 - 1875

= 625 cm

Length of embroidery floss required for one necklace = 40 cm

Number of necklaces made = $\frac{\text{Remaining embroidery floss}}{\text{Length of embroidery floss required for one necklace}}$ = $\frac{625}{40}$ = 15 necklaces

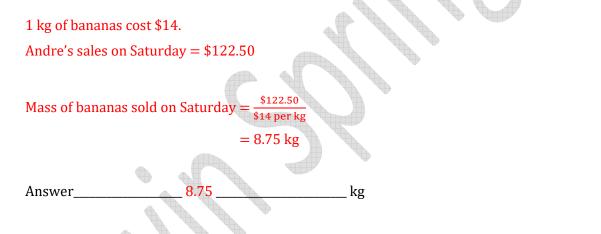
Answer_____15 _____necklaces



32. Andre went to the market on Saturday and Sunday to sell his bananas according to the advertisement below.



(a) If he made \$122.50 on Saturday, what was the mass of the bananas that were sold? [1]



(b) On Sunday he sold 3.15 kilograms less bananas than on Saturday. Calculate Andre's sales on Sunday.

Mass of bananas sold on Sunday = 3.15 kg less than on Saturday

= 8.75 - 3.15 kg = 5.6 kg

1 kg of bananas cost \$14.

Andre's sales on Sunday = $5.6 \times 14 = \$78.40

Answer \$_____ 78.40 _____



33. Duliana is touring Port of Spain with her family. They want to visit the Emperor Valley Zoo, the Botanical Garden and the National Museum before their lunch reservations at 1:30 p.m. They want to spend 2 hours and 15 minutes at the Emperor Valley Zoo, 45 minutes in the Botanical Garden and 1 hour and 45 minutes on the tour of the National Museum.

What is the latest time Duliana's family can start their tour of Port of Spain and still make it to lunch on time? [3]

Lunch reservations are at 1:30 p.m.

Time to be spent in the Emperor Valley Zoo = 2 hours 15 minutesTime to be spent in the Botanical Garden= 0 hours 45 minutesTime to be spent in the National Museum= 1 hours 45 minutesTOTAL time to be spent touring POS= 4 hours 45 minutes

Latest time Duliana's family can begin their tour to make it to lunch at 1:30 p.m.:

12 90 13:30 4:45 08:45

Answer	_ 8:45
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[2]

34. (a) What is a polygon?

Answer: A polygon is a two-dimensional shape (also called flat or plane figure) with at least three straight sides and angles.

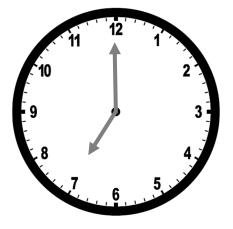
(b) Name **and** draw an irregular polygon below.

Irregular polygons are polygons that have unequal angles and unequal sides.

Answer _____ scalene triangle ____



35. A clock is shown below.



The hour hand moved from 7 to 5 in a clockwise direction. Through how many degrees did the hour hand move? [2]

A circle has 360°.

The circle is divided equally into twelve angles at the centre.

Angle between any 2 numbers next to each other = $360^{\circ} \div 12$

= 30°

Spaces moved from 7 to 5 = 10 spaces

Number of degrees the hand moved = $10 \times 30^{\circ}$

= 300°

Answer	300	degrees



36. The mean of 13 numbers was 22. Another number was added and the new mean was 24. What number was added?[2]

$$Mean = \frac{Sum}{Frequency}$$

The mean of 13 numbers was 22. Hence, the sum of these 13 numbers = 13×22 = 286

The new mean of the 14 numbers is 24.

Hence, the new sum = 14×24

= 336

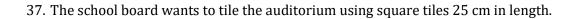
= 50

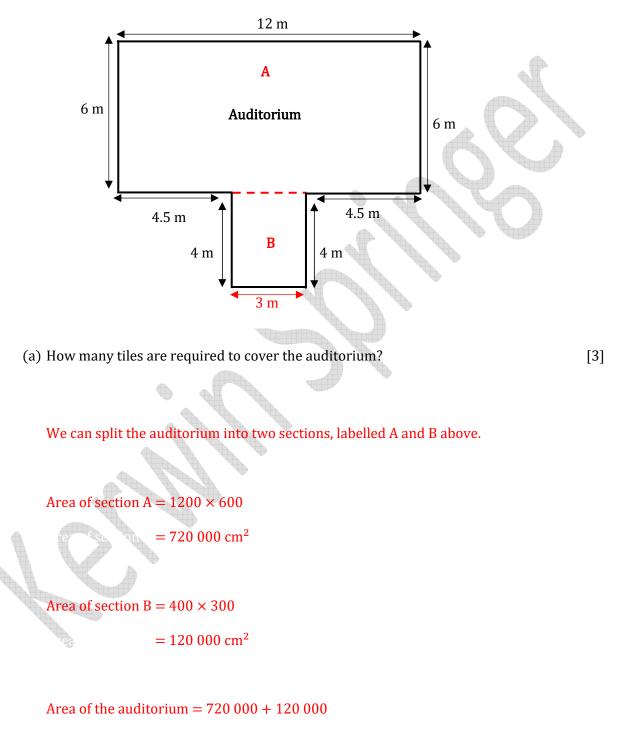
The number that was added = 336 - 286

Answer 50



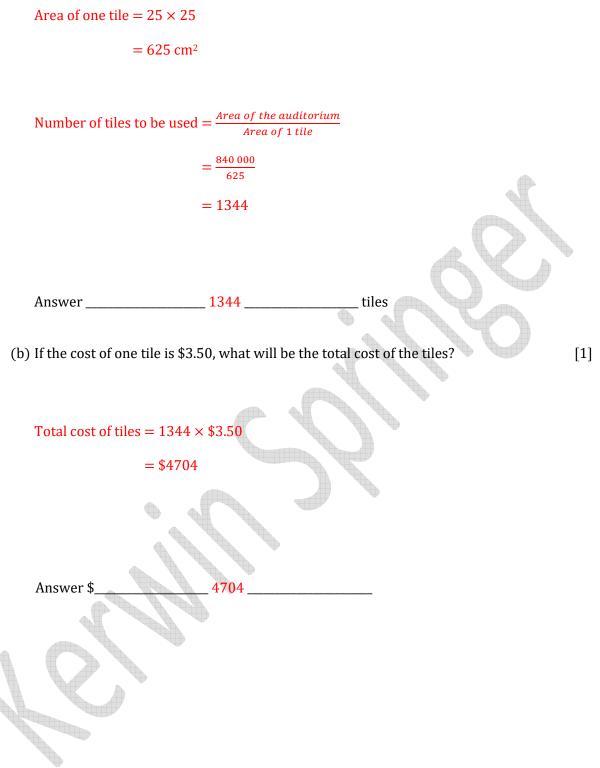
SECTION III





 $= 840\ 000\ cm^{2}$



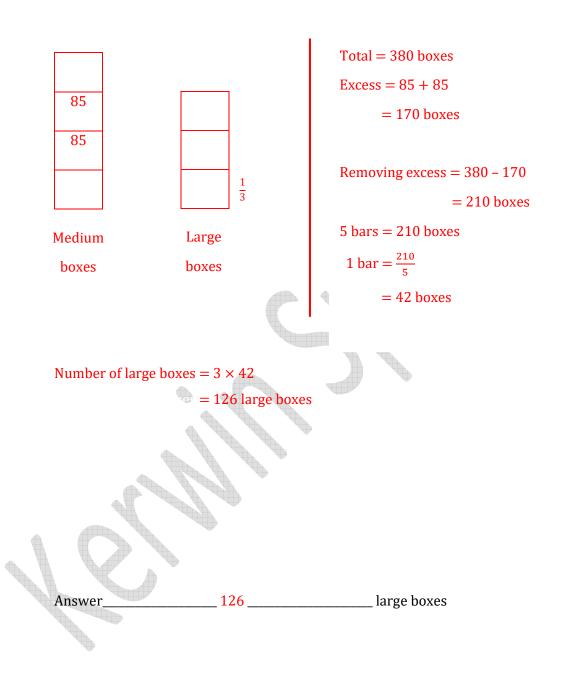




[4]

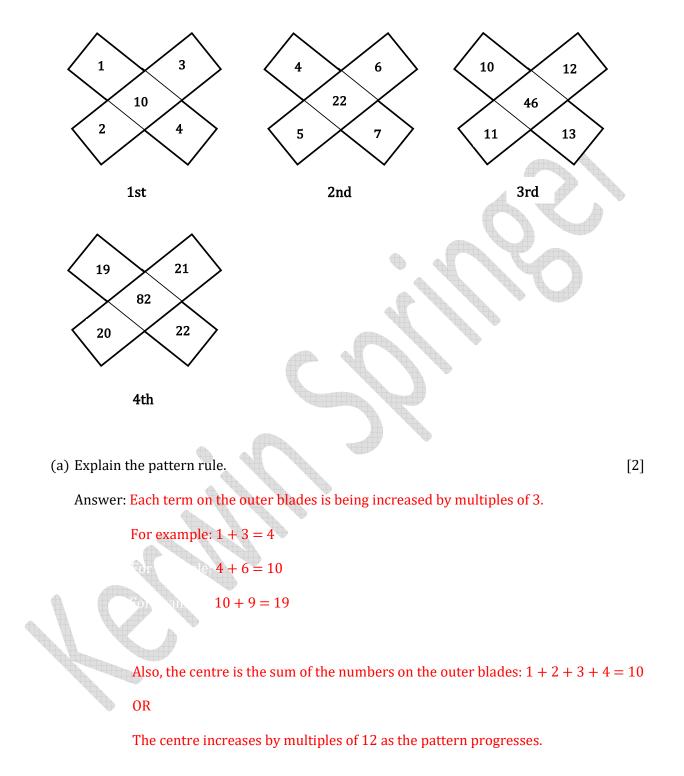
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38. There are 380 Styrofoam boxes (medium and large) in a Chinese restaurant. Half of the medium boxes is 85 more than $\frac{1}{3}$ of the large boxes. How many large boxes are there in the restaurant?



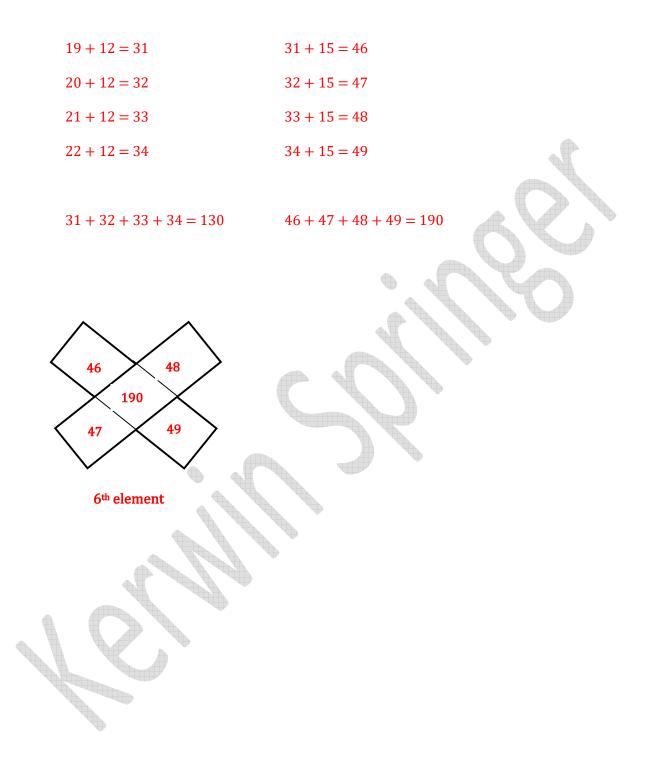


39. The first four elements of a pattern are shown below.



THE STUDENT HUB [2]

(b) Draw the 6th element.





[3]

- 40. Kylie spent 30% of her salary on rent and gave her sister, Renee, 20% of the remainder.Kylie was left with \$980.
 - (a) Calculate the total amount of Kylie's salary.

Percentage spent by Kylie = 30%Fraction spent by Kylie = $\frac{30}{100} = \frac{3}{10}$

Remainder after rent = $\frac{10}{10} - \frac{3}{10}$ $= \frac{7}{10}$

Renee received 20% of the remainder.

Fraction received by Renee = $\frac{20}{100} \times \frac{7}{10}$ = $\frac{7}{50}$

Fraction of salary spent and given away $=\frac{3}{10}+\frac{7}{50}$

11 25

Fraction of salary remaining $=\frac{25}{25} - \frac{11}{25}$ $=\frac{14}{25}$

Kylie was left with \$980.

So, $\frac{14}{25}$ of her salary = \$980

Entire salary = $\frac{980}{1} \times \frac{25}{14}$ = \$1750

Answer \$_____ 1750 _____



(b) Calculate the amount of money Renee received.

