Primary 5 Solutions

Section A:

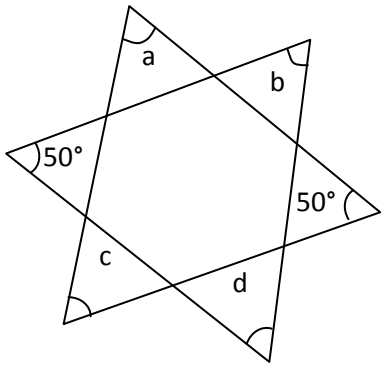
1. Listing the factors of 740
   740 = 1 × 740
   = 2 × 370
   = 4 × 185
   = 5 × 148
   = 10 × 72
   = 20 × 37
   The factor between 30 and 40 is 37.
   There are <u>37</u> classmates.
   No. of stickers needed = 5 ×37 = <u>185</u>

2. The three numbers are either {even, even, even} or {even, odd, odd}.
   {14, 16, 18} 1 way
   {14, x, x} 3 ways
   {16, x, x} 3 ways
   {18, x, x} 3 ways
   Total number of ways = 1 + 3 + 3 + 3 = <u>10</u>

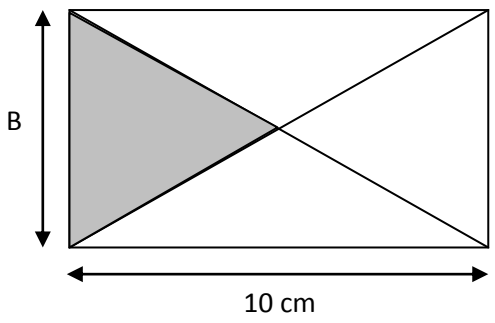
3. Bobo could only say that on Mon, Fri, Sat, Sun. Qiqi could only say that on Tue, Wed, Thu and Fri. Only on <u>Friday</u> can both of them say that.

4. A and B are younger than C but only <u>B</u> has less sleep than C.

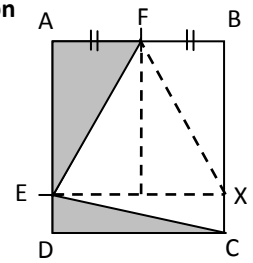
5. $a + c + 50^o = 180^o$
   $b + d + 50^o = 180^o$
   $a + b + c + d = 360^o - 50^o - 50^o = \underline{260^o}$



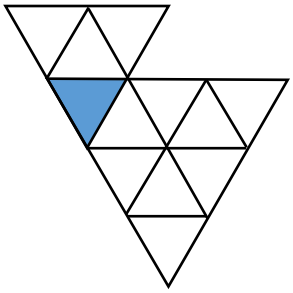
6. The shaded area = $\frac{1}{4}$ Area of rectangle
   Area of rectangles = 20 × 4 = 80 cm^2
   10 × B = 80
   B = 80 ÷ 10 = <u>8 cm</u>



7. AFE → 1 unit
EFBX → 3 units
CDEX → 1 unit
CDE → $\frac{1}{2}$ unit
Ratio of AFE to CDE → <u>2 : 1</u>

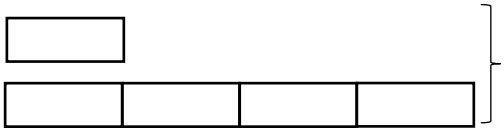


8. Dividing the triangles into equal smaller triangles,



we see that the whole area is made of 12 smaller triangles.
Percentage of the figure shaded = $\frac{1}{12}$ × 100% = $8\frac{1}{3}$% or <u>8.33%</u>

9. Numerator
Denominator



41 + 39 = 80

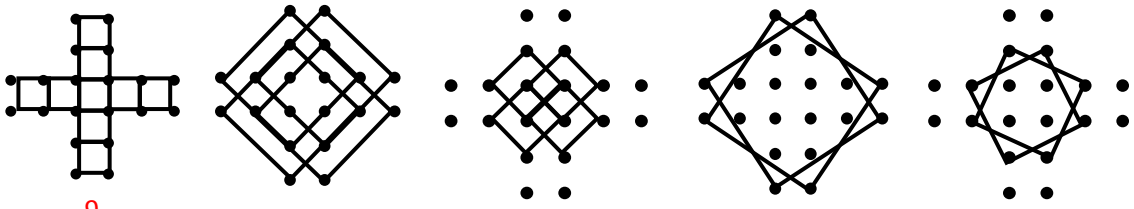
80 ÷ 5 = 16
Numerator = 16
New denominator = 16 × 4 = 64
Original denominator = 64 – 39 = 25

The fraction is $\frac{16}{25}$.

10. If he buys 9 pens without the 4 erasers, he will need only \$3.70 – \$2.40 = \$1.30 more.
Cost of 1 pen = \$1.30 – \$0.40 = \$0.90
Cost of 8 pens = \$0.90 × 8 – \$0.40 = \$6.80
Mr Pang has <u>\$6.80</u>.

Section B:

11.

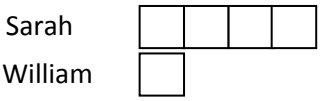


Total number of squares = 9 + 4 + 4 + 2 + 2 = <u>21</u>

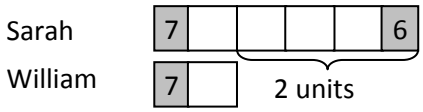
12. A – Tan
B – Lee
C – Ong

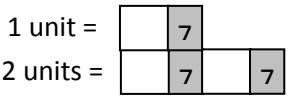
	A	B	C
Lee	×	✓	×
Ong	×	×	✓
Tan	✓	×	×
Fireman	×	×	✓
Scientist	✓	×	×
Doctor	×	✓	×

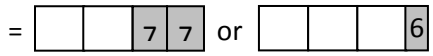
13. Before :

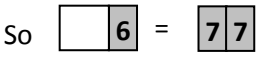


After :

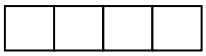








= 14 – 6 = 8

Before: Sarah 

8 × 4 = 32
Sarah had 32 stickers at first.

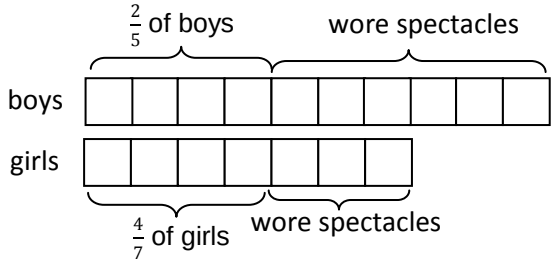
14.

	Red	:	Green	
Before	1	:	3	→ 144 kg altogether
After	2	:	3	

We note that the number of green beans did not change.
Therefore, number of red beans bought → 2 – 1 = 1 unit

4 units = 144 kg
1 unit = 36 kg

15.



$\frac{2}{5}$ of boys = $\frac{4}{7}$ of girls
17 units = 170 students
1 unit = 10
No. of girls = 7 units × 10 = <u>70</u>

16. In 1 week, John is able to save $15 more than James
315 – 210 = 105
John saved $105 more than James.

105 ÷ 15 = 7
It took John <u>7</u> weeks to save $315.

17. Total number of candidates = 18 + 15 + 12 + 10 + 10 + 12 + 7 + 6 = 90
No. of candidates who passed Grade 4 to Grade 8 = 40% of 45 = 18

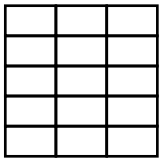
No. of candidates who passed Grade 5 = 18 – 3 – 7 – 2 – 2 = 4
No. of candidates who passed Grade 1 to Grade 5 = $\frac{3}{5}$ × 65 = 39

No. of candidates who passed Grade 1 = 39 – 11 – 10 – 3 – 4 = 11
$\frac{11}{50}$ × 100 = 22

<u>22%</u> of the candidates passed the Grade 1 examination.

18. In 1 hour, the hour hand moves 30°. In 10 min, it moves $\frac{1}{6}$ × 30° = 5°.
At 11:40, the minute hand is 120° from the vertical and the hour hand is 10° from the vertical.
120° – 10° = <u>110°</u>

19. Common multiple of 15 and 9 is 45.
45 ÷ 15 = 3
45 ÷ 9 = 5
3 × 5 = <u>15 pieces</u>



20. When height and radius of the base are reduced by $\frac{1}{2}$, the volume is reduced to $\frac{1}{8}$ of the original. That is, the volume is reduced by $\frac{7}{8}$ = <u>87.5%</u> of the original volume.

Section C:

21. $\frac{6}{2016} + \frac{12}{2016} + \frac{18}{2016} + \frac{24}{2016} + \ldots\ldots\ldots + \frac{2016}{2016} = \frac{6+12+18+24+\cdots+2016}{2016}$

2016 is the 336th multiple of 6.

The sum of 6 + 12 + 18 + 24 + … + 2016 = $\frac{(6+2016)\times 336}{2}$

$\frac{6+12+18+24+\cdots+2016}{2016} = \frac{(6+2016)\times 336}{2} \div 2016 = \frac{(6+2016)\times 336}{2} \times \frac{1}{2016} = \underline{168.5}$

22. Ratio last year :

Boys : Girls
3 : 4
= 12 : 16 → 28 units

Ratio of last year to this year :

Last year : This year
4 : 5
28 : 35

35 – 28 = 7 units
7 units = 63 people
1 unit = 9 people

Boys last year → 12 units
12 units = 12 × 9 = 108 boys last year

This year's total = 35 units
= 35 ×9
= 315 children

This year :
Boys : Girls
11 : 10

21 units = 315
11 units = 165 (No. of boys this year)

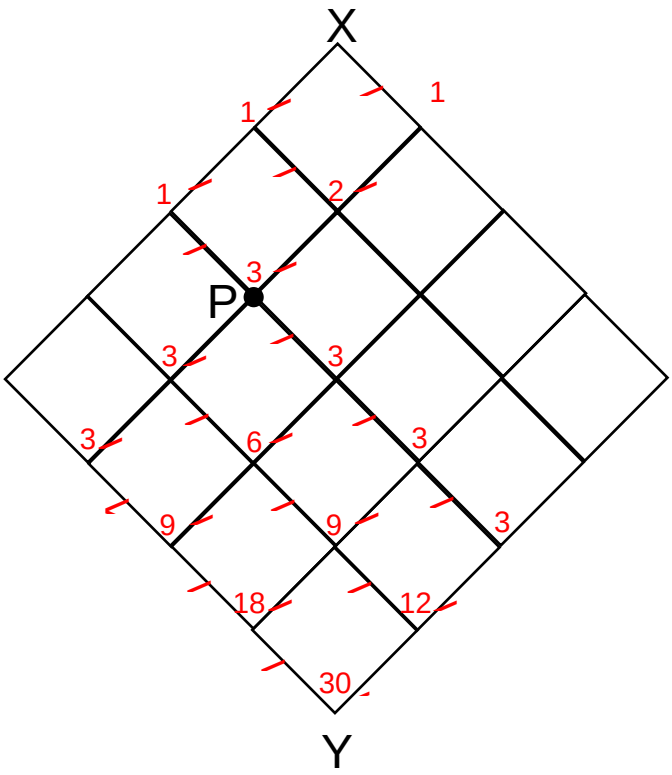
165 – 108 = 57
<u>57</u> new members are boys.

23.

Case	A	B	C	D	E	F	
1	✓	×	×	×			(i) If A is selected Problem: (v)
2	×	✓	✓	×	×	✓	(i) If B is selected Problem: (iii)
3	✓	✓	✓	×	×	✓	(i) If both A and B are selected

<u>A, B, C, & F</u> were selected. (Ans)

24. Ans: <u>30</u>



25.

10^1	2 digit numbers	11, 20	2 numbers
10^2	3 digit numbers	101, 110, 200	3 numbers
10^3	4 digit numbers	1001, 1010, 1100, 2000	4 numbers
:			
10^{199}	200 digit numbers		200 numbers
10^{200}	201 digit numbers		-

$2 + 3 + 4 + \ldots + 200 = \frac{202 \times 199}{2} =$ <u>20 099</u>