

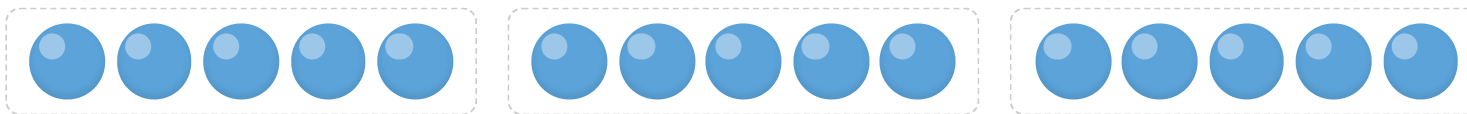
1. Equal Groups and Multiplication

a)



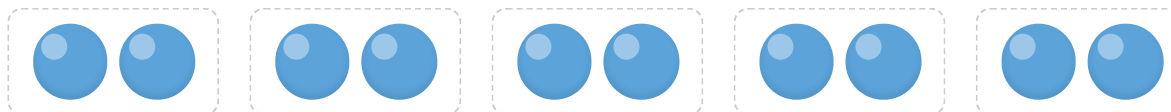
$$4 \times 3 = \boxed{}$$

b)



$$3 \times 5 = \boxed{}$$

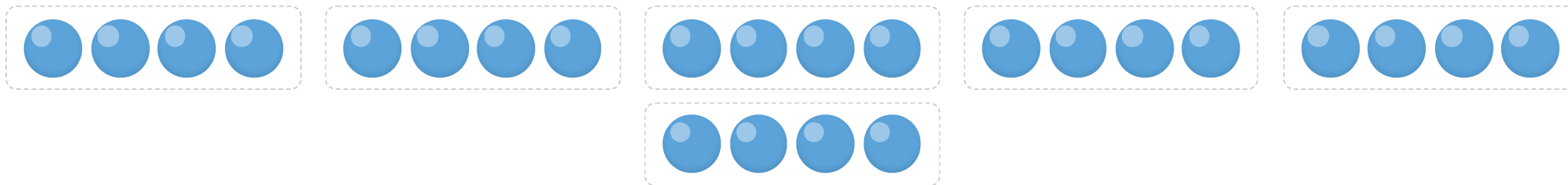
c)



$$5 \times 2 = \boxed{}$$

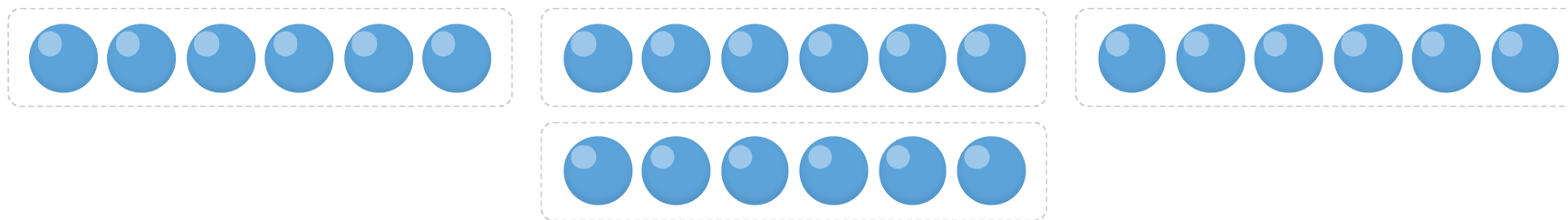
1. Equal Groups and Multiplication

d)



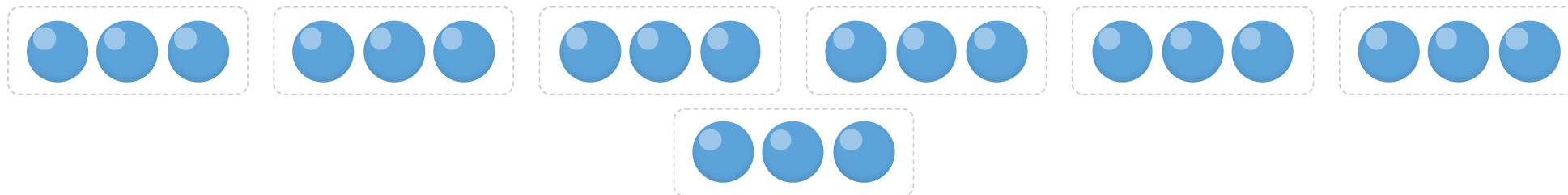
$$6 \times 4 = \square$$

e)



$$4 \times 6 = \square$$

f)



$$7 \times 3 = \square$$

2. Arrays and Multiplication

a)



$$3 \times 4 = \square$$

b)



$$2 \times 5 = \square$$

2. Arrays and Multiplication

c)



$$4 \times 3 = \square$$

d)



$$5 \times 4 = \square$$

2. Arrays and Multiplication

e)



$$3 \times 6 = \square$$

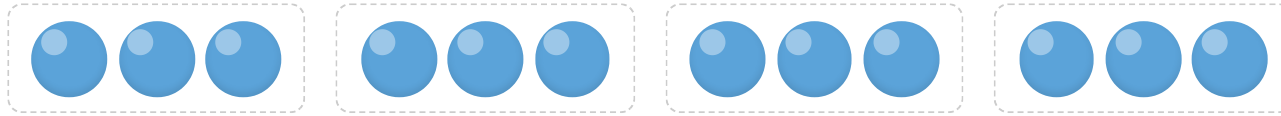
f)



$$6 \times 3 = \square$$

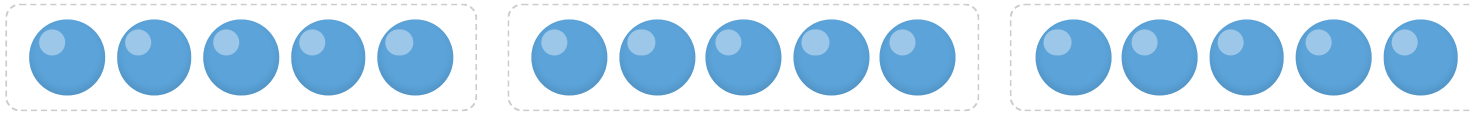
3. Equal Sharing and Division

a)



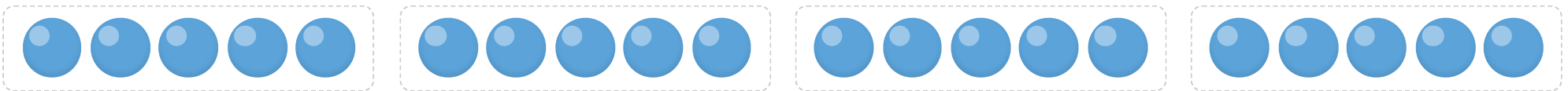
$$12 \div 4 = \square$$

b)



$$15 \div 3 = \square$$

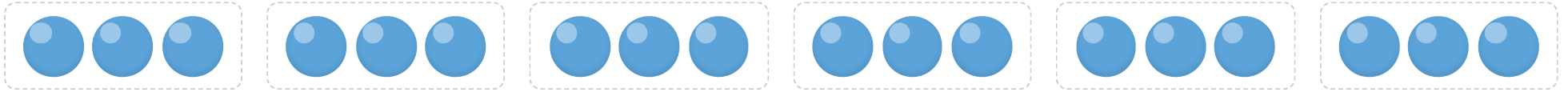
c)



$$20 \div 4 = \square$$

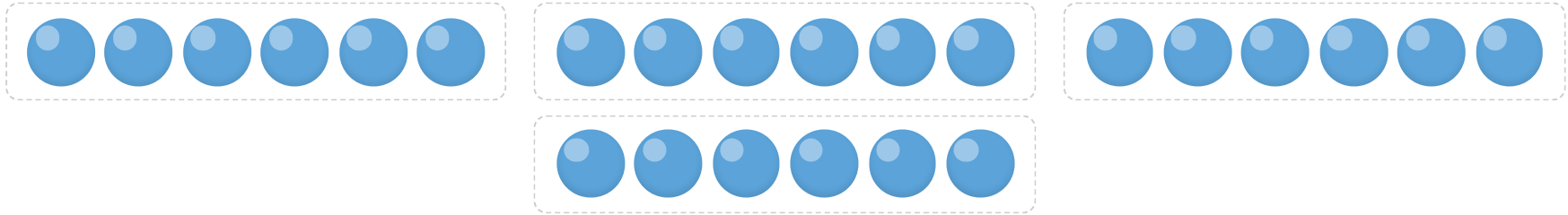
3. Equal Sharing and Division

d)



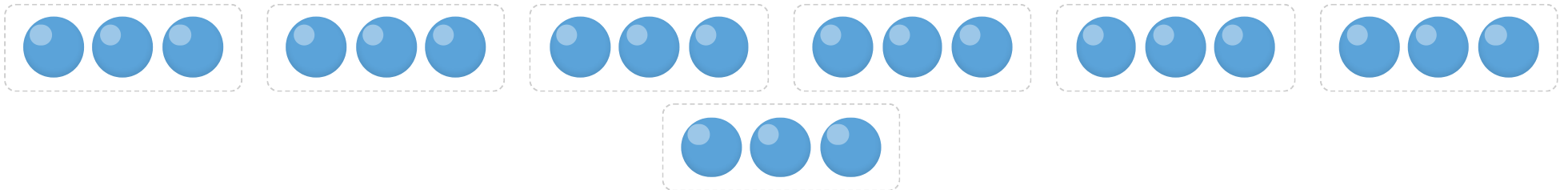
$$18 \div 6 = \boxed{}$$

e)



$$24 \div 4 = \boxed{}$$

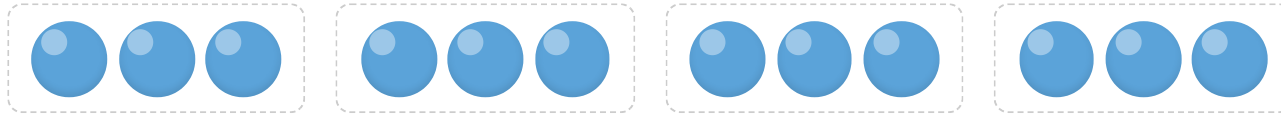
f)



$$21 \div 7 = \boxed{}$$

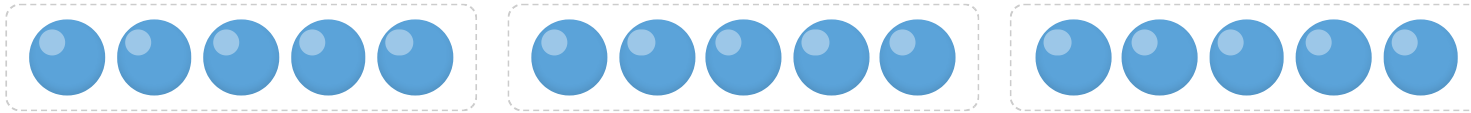
4. Division to Find Number of Groups

a)



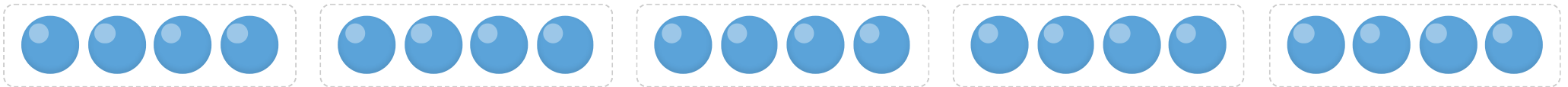
$$12 \div 3 = \square$$

b)



$$15 \div 5 = \square$$

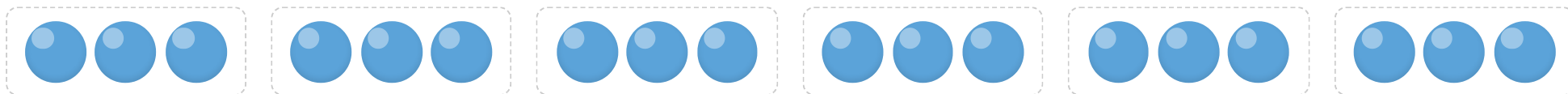
c)



$$20 \div 4 = \square$$

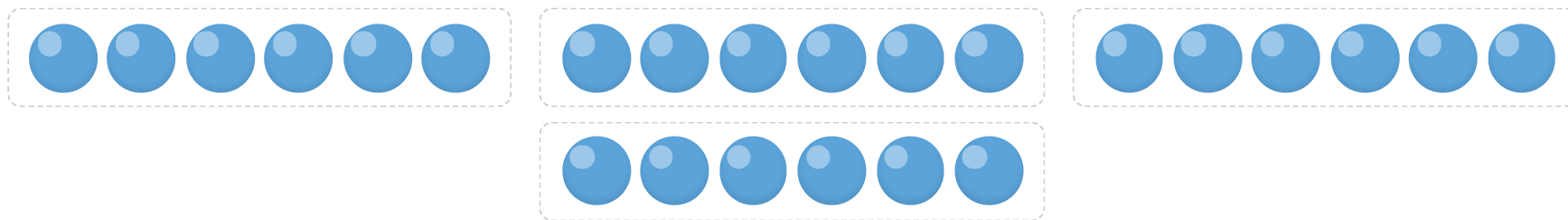
4. Division to Find Number of Groups

d)



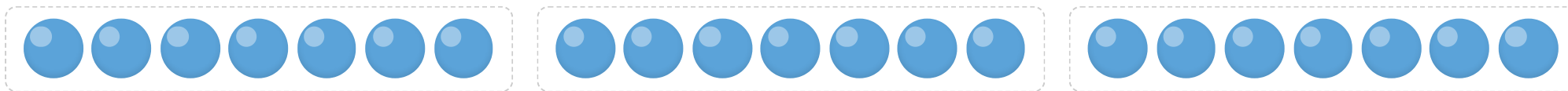
$$18 \div 3 = \square$$

e)



$$24 \div 6 = \square$$

f)



$$21 \div 7 = \square$$

5. Multiplication and Division Word Problems

a)

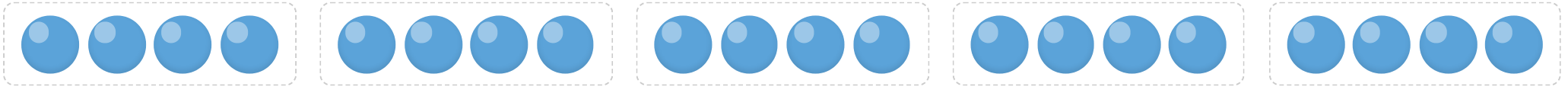
Tom has 4 plates, each with 3 apples. How many apples in total?



$$4 \times 3 = \boxed{}$$

b)

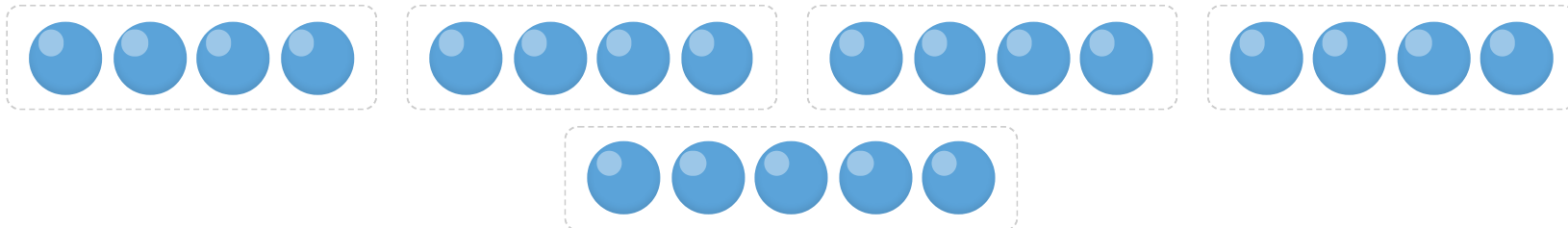
There are 5 rows of flowers in the garden, each row has 4 flowers. How many flowers in total?



$$5 \times 4 = \boxed{}$$

c)

24 books are shared equally among 6 children. How many books does each child get?

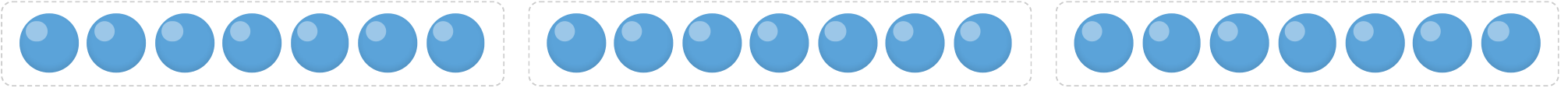


$$24 \div 6 = \boxed{}$$

5. Multiplication and Division Word Problems

d)

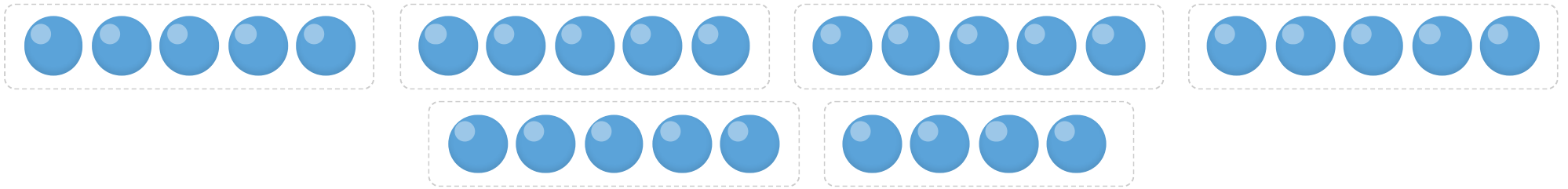
There are 3 rows of parking spaces, each row has 7. How many parking spaces in total?



$$3 \times 7 = \boxed{}$$

e)

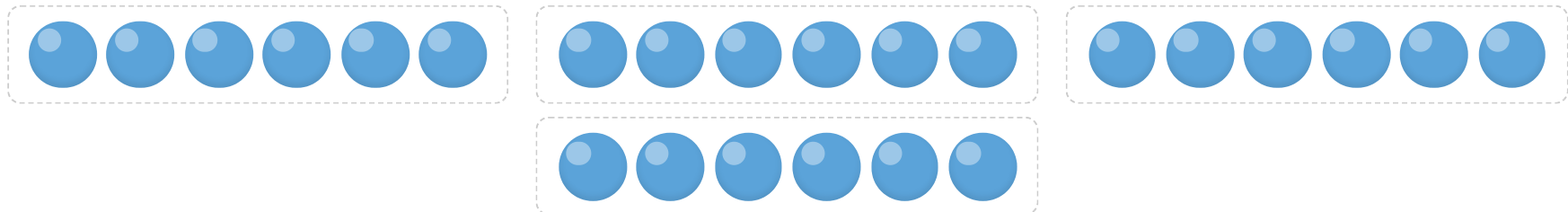
There are 30 candies, 5 per bag. How many bags can be made?



$$30 \div 5 = \boxed{}$$

f)

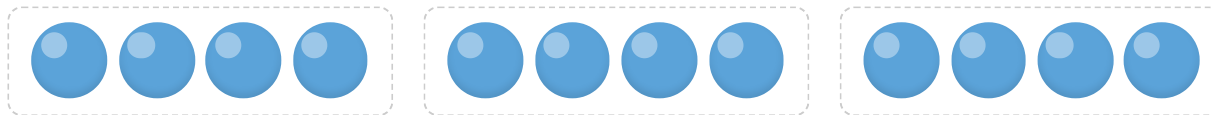
A table has 6 legs. How many legs do 4 tables have in total?



$$4 \times 6 = \boxed{}$$

6. Finding the Unknown Factor

a)



$$3 \times 4 = 12$$

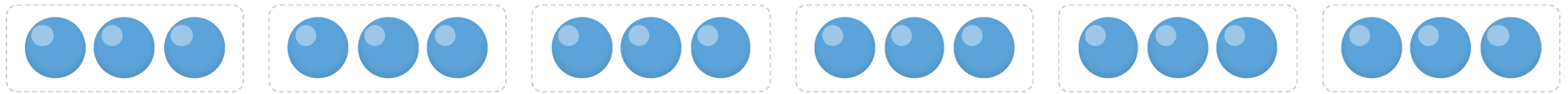
b)



$$4 \times \square = 20$$

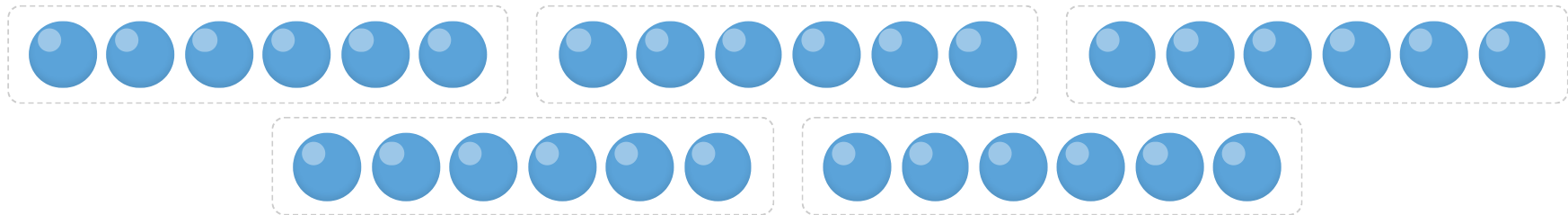
6. Finding the Unknown Factor

c)



$$\square \times 3 = 18$$

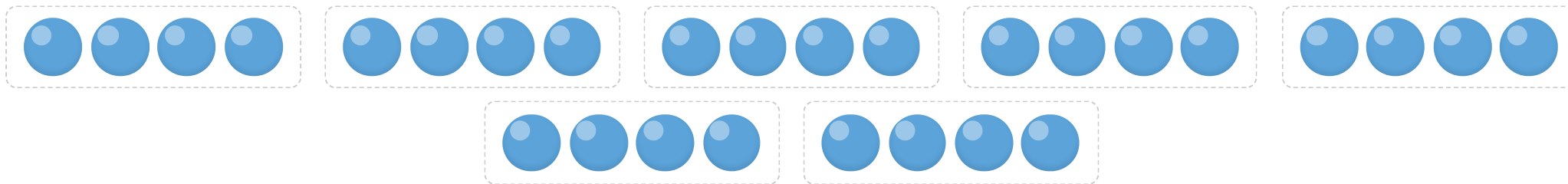
d)



$$5 \times \square = 30$$

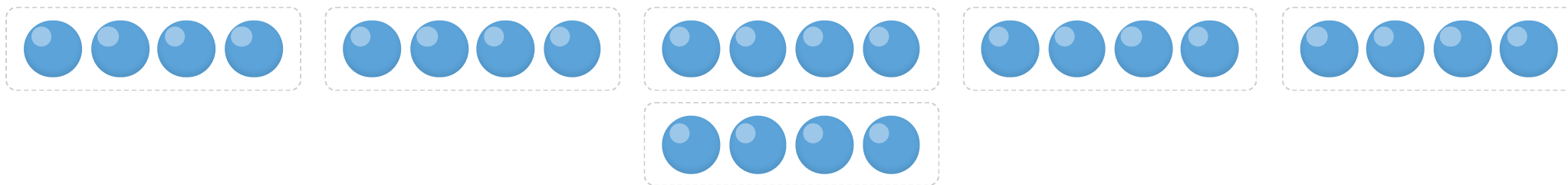
6. Finding the Unknown Factor

e)



$$\square \times 4 = 28$$

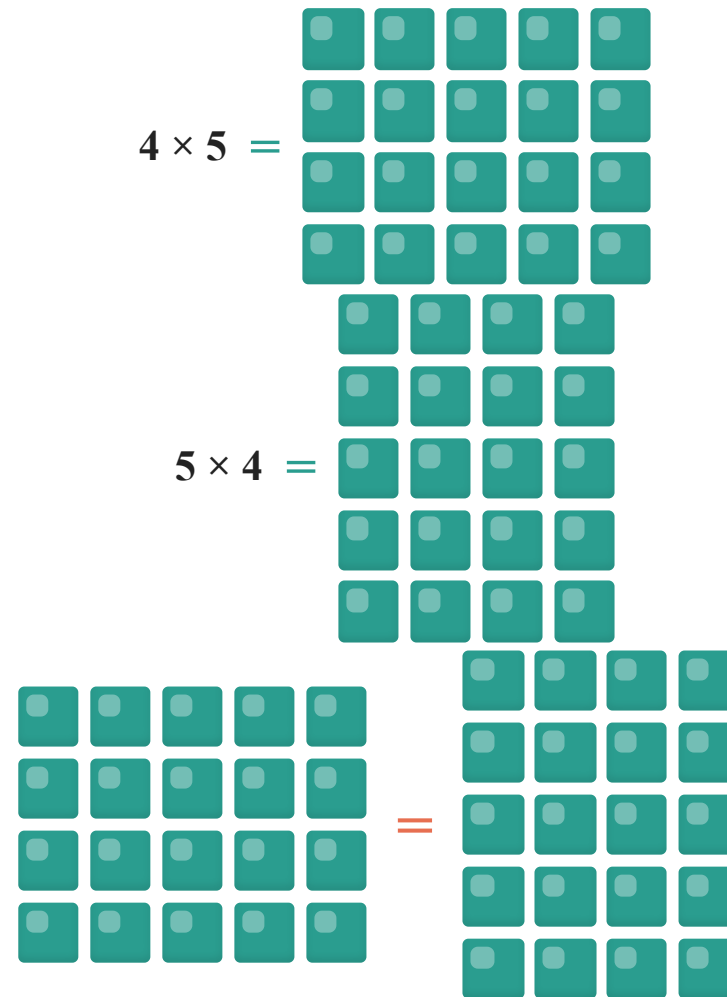
f)



$$6 \times \square = 24$$

7. Properties of Operations

Proof 1: Commutative Property of Multiplication

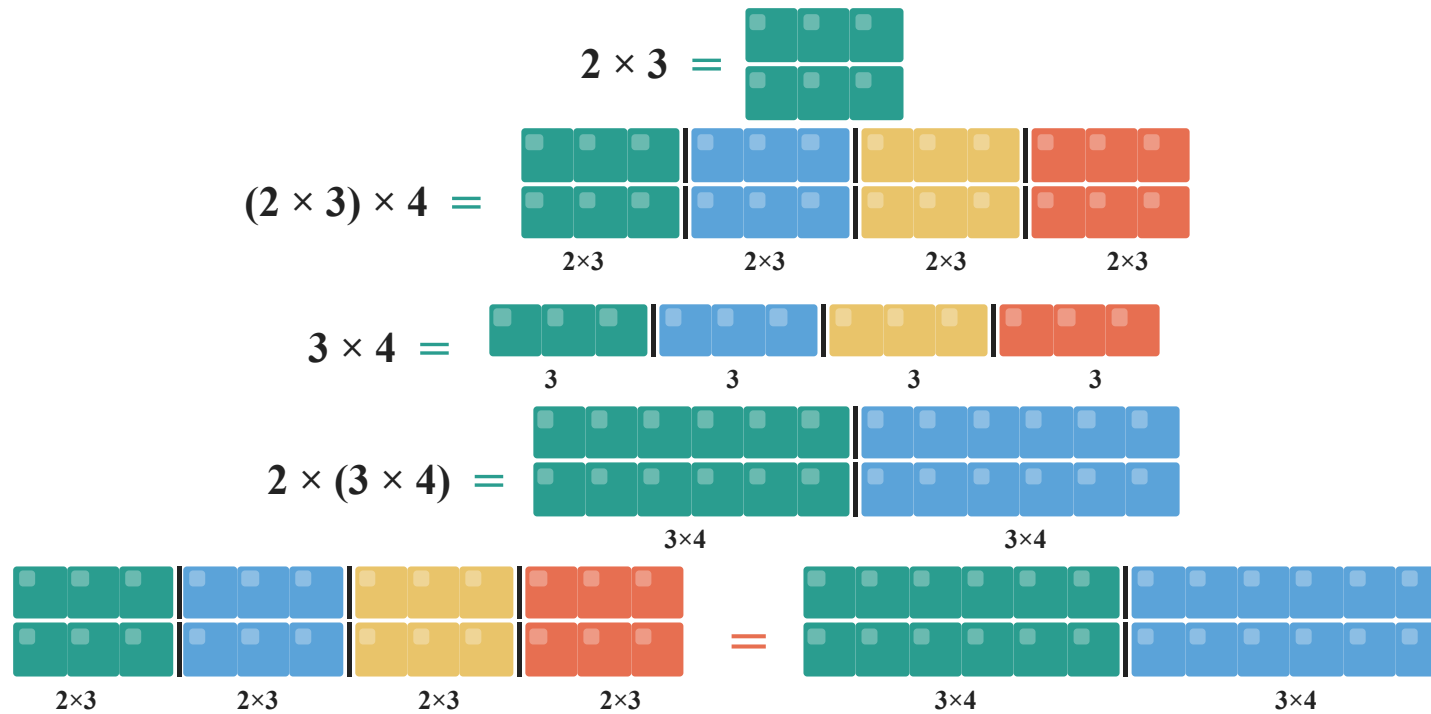


↻ Rotate 90° to match perfectly

$$\therefore 4 \times 5 = 5 \times 4 = 20$$

7. Properties of Operations

Proof 2: Associative Property of Multiplication

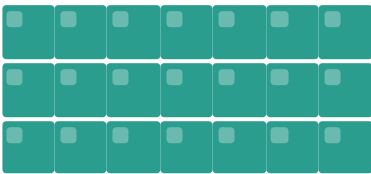


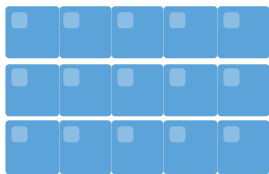
Two large rectangles are identical: 2 rows $\times$ 12 columns

$$\therefore (2 \times 3) \times 4 = 2 \times (3 \times 4)$$

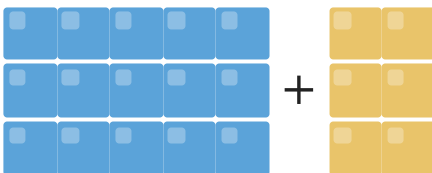
7. Properties of Operations

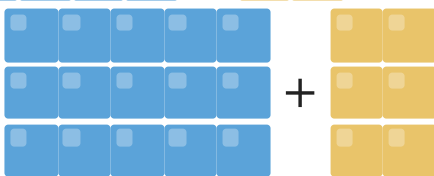
Proof 3: Distributive Property of Multiplication

$$3 \times (5 + 2) =$$


$$3 \times 5 =$$


$$3 \times 2 =$$


$$3 \times 5 + 3 \times 2 =$$



$$=$$


Put together = 3 rows $\times$ 7 columns, same as the rectangle on the left

$$\therefore 3 \times (5 + 2) = 3 \times 5 + 3 \times 2 = 21$$

7. Properties of Operations

Exercise: Using Properties of Operations

d)

$$6 \times 8 = 8 \times 6 = \boxed{}$$

e)

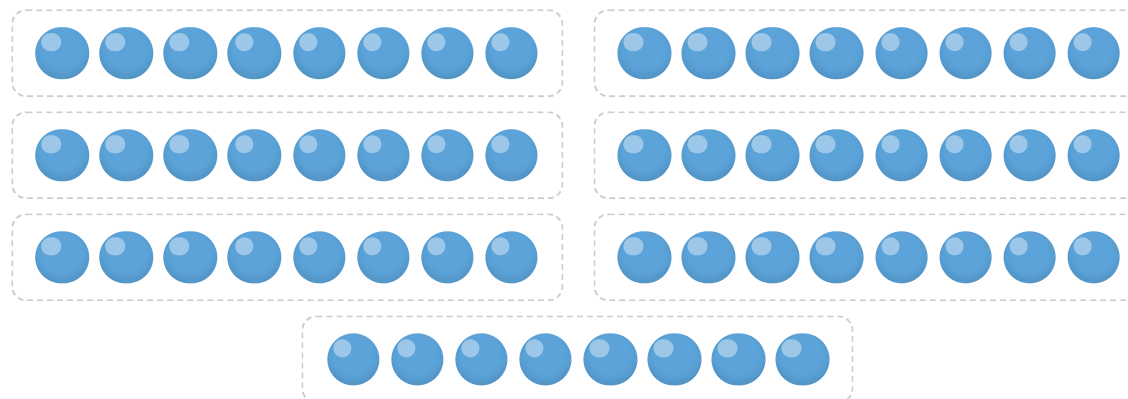
$$(5 \times 2) \times 3 = 5 \times (2 \times 3) = \boxed{}$$

f)

$$4 \times (3 + 6) = 4 \times 3 + 4 \times 6 = \boxed{}$$

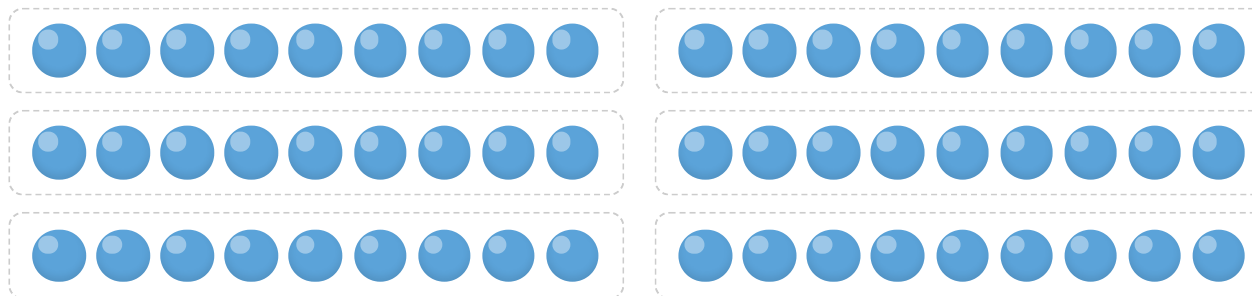
8. Fluency in Multiplication and Division within 100

a)



$$7 \times 8 = 56$$

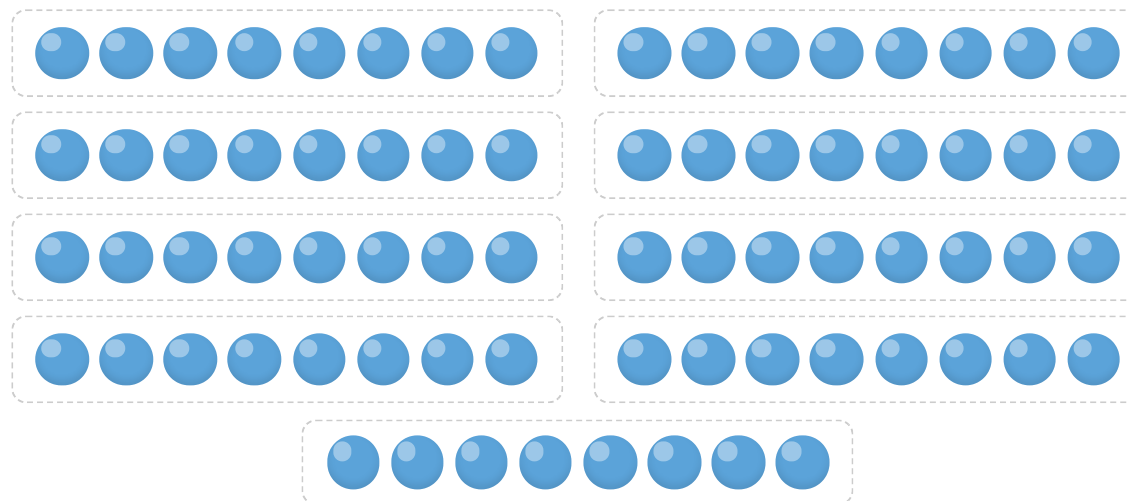
b)



$$6 \times 9 = \boxed{}$$

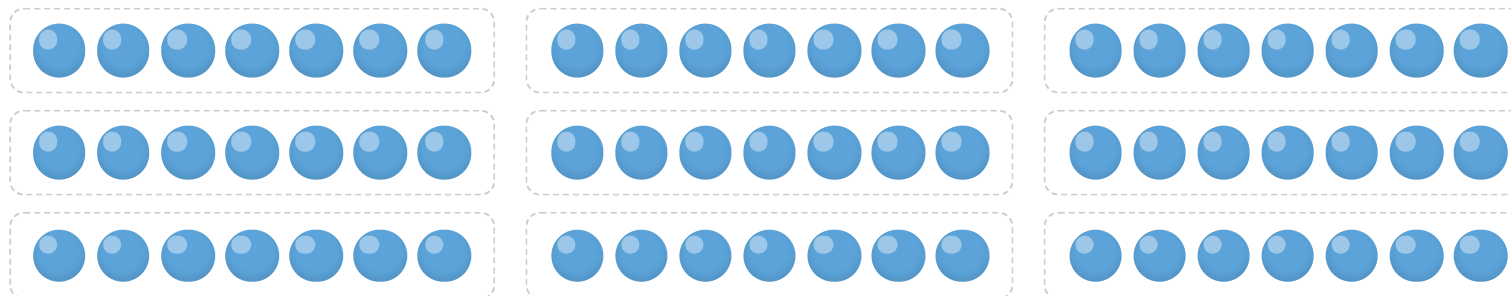
8. Fluency in Multiplication and Division within 100

c)



$$72 \div 8 = \boxed{}$$

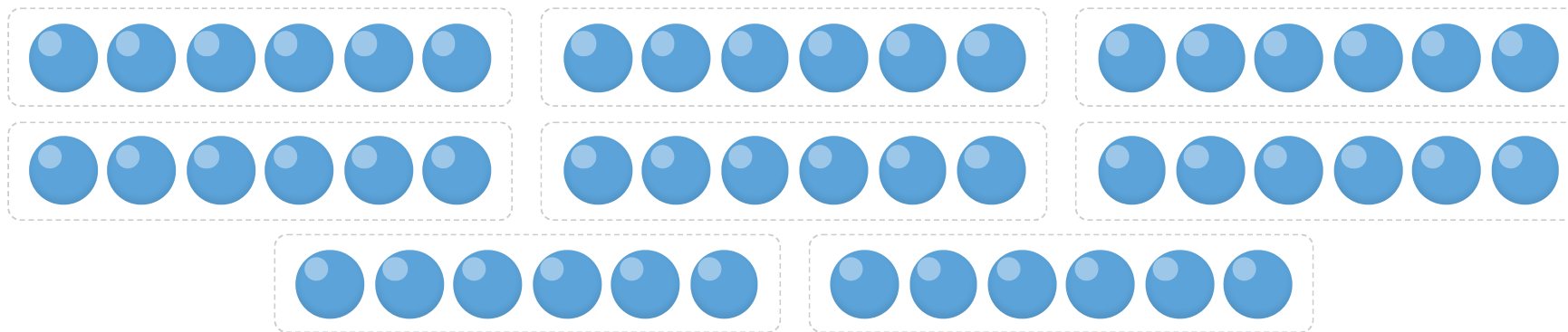
d)



$$9 \times 7 = \boxed{}$$

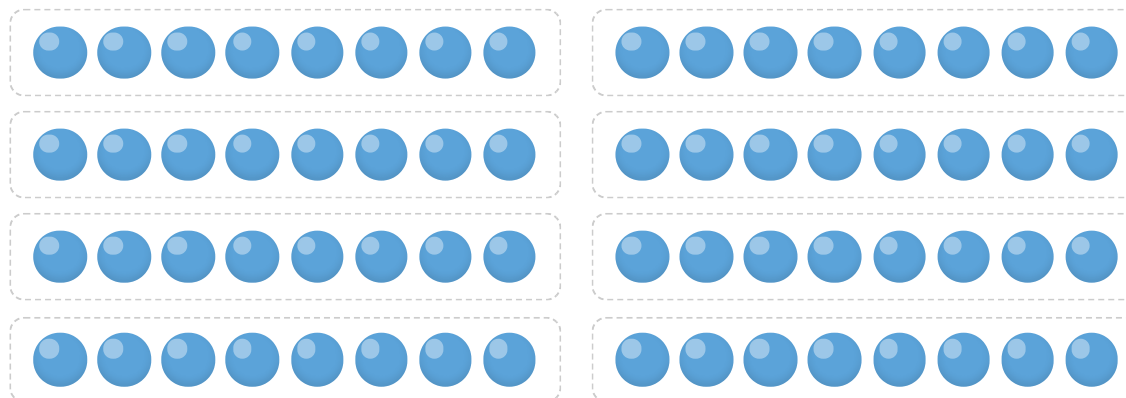
8. Fluency in Multiplication and Division within 100

e)



$$48 \div 6 = \square$$

f)



$$8 \times 8 = \square$$

9. Two-Step Word Problems

a)

A store had 50 apples, sold 20, and bought 15 more. How many apples now?

$$50 - 20 = \boxed{30}$$

$$30 + 15 = \boxed{45}$$

$$\text{Ans: } \boxed{45}$$

b)

Tom had 35 stickers, gave 12 to friends, and his mom gave him 20 more. How many now?

$$\boxed{} - \boxed{} = \boxed{}$$

$$\boxed{} + \boxed{} = \boxed{}$$

9. Two-Step Word Problems

c)

There were 45 cars in the parking lot. 18 left and 25 came. How many cars now?

		=	
		=	

d)

A book has 80 pages. Read 23 pages on day 1 and 35 on day 2. How many pages left?

		=	
		=	

9. Two-Step Word Problems

e)

3 rows of seats, 8 seats per row, and 6 more seats added. How many seats total?

$$\begin{array}{ccc} \square & \square & = \square \\ \square & \square & = \square \end{array}$$

f)

24 cookies shared equally among 4 children, each child ate 2 cookies. How many left per child?

$$\begin{array}{ccc} \square & \square & = \square \\ \square & \square & = \square \end{array}$$

10. Patterns in Arithmetic

a)

Look at the pattern in this multiplication table:

$$1 \times 5 = 5$$

$$2 \times 5 = 10$$

$$3 \times 5 = 15$$

$$4 \times 5 = 20$$

Pattern: Each time increase by 5

b)

Find the pattern and fill in the next one:

$$2 \times 3 = 6$$

$$3 \times 3 = 9$$

$$4 \times 3 = 12$$

$$\boxed{} \times 3 = \boxed{}$$

10. Patterns in Arithmetic

c)

Find the pattern and fill in the next one:

$$1 \times 2 = 2$$

$$2 \times 2 = 4$$

$$3 \times 2 = 6$$

$$\boxed{} \times 2 = \boxed{}$$

d)

Find the pattern and fill in the next one:

$$1 \times 7 = 7$$

$$2 \times 7 = 14$$

$$3 \times 7 = 21$$

$$\boxed{} \times 7 = \boxed{}$$

10. Patterns in Arithmetic

e)

Find the pattern and fill in the next one:

$$1 \times 4 = 4$$

$$2 \times 4 = 8$$

$$3 \times 4 = 12$$

$$\boxed{} \times 4 = \boxed{}$$

f)

Find the pattern and fill in the next one:

$$1 \times 6 = 6$$

$$2 \times 6 = 12$$

$$3 \times 6 = 18$$

$$\boxed{} \times 6 = \boxed{}$$

11. Rounding to Tens and Hundreds

a)

34 rounded to the nearest ten



$$34 \approx 30$$

b)



$$47 \approx \boxed{}$$

c)



$$52 \approx \boxed{}$$

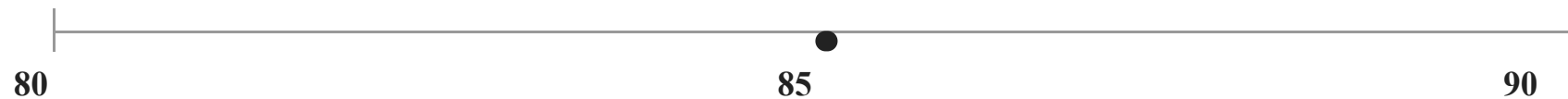
11. Rounding to Tens and Hundreds

d)



$$68 \approx \boxed{}$$

e)



$$85 \approx \boxed{}$$

f)

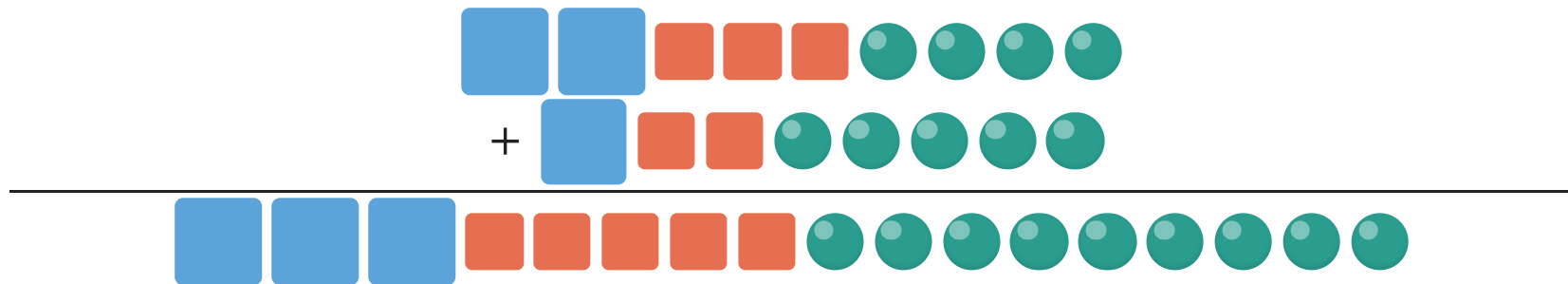


$$123 \approx \boxed{}$$

12. Addition within 1000

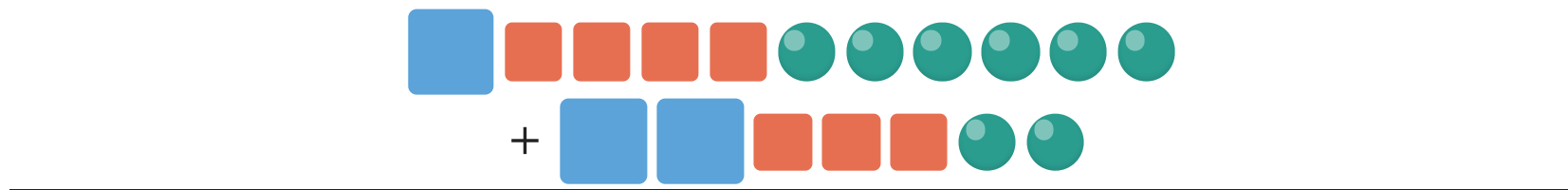
 =100  =10  =1

a)



$$234 + 125 = 359$$

b)

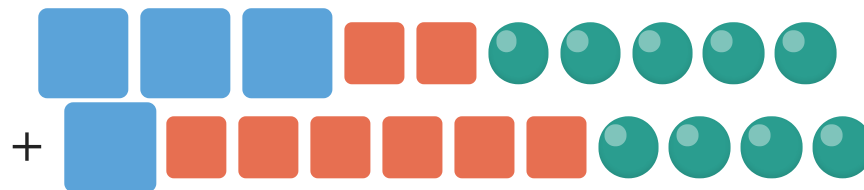


$$146 + 232 = \boxed{}$$

12. Addition within 1000

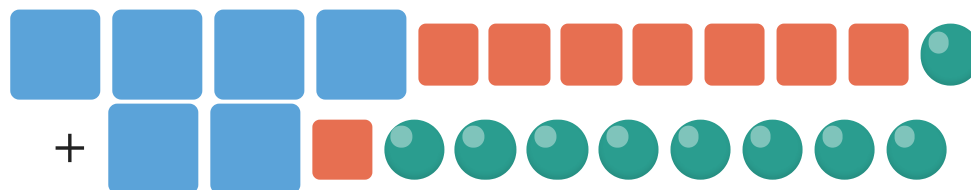
 =100  =10  =1

c)



$$325 + 164 = \boxed{}$$

d)

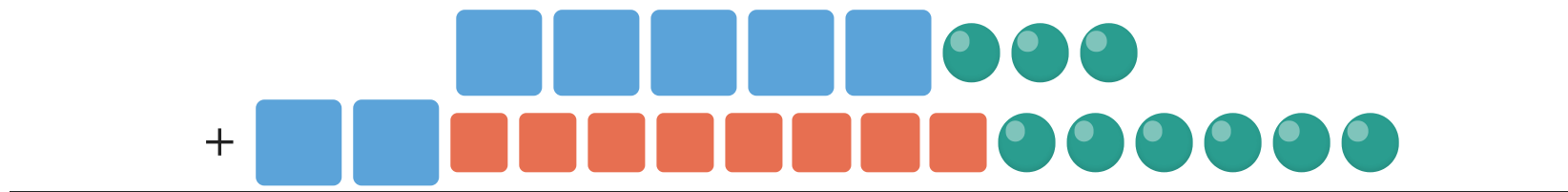


$$471 + 218 = \boxed{}$$

12. Addition within 1000

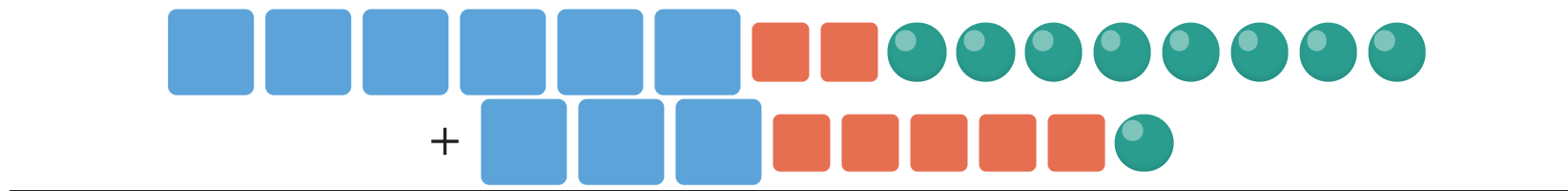
 =100  =10  =1

e)



$$503 + 286 = \boxed{}$$

f)

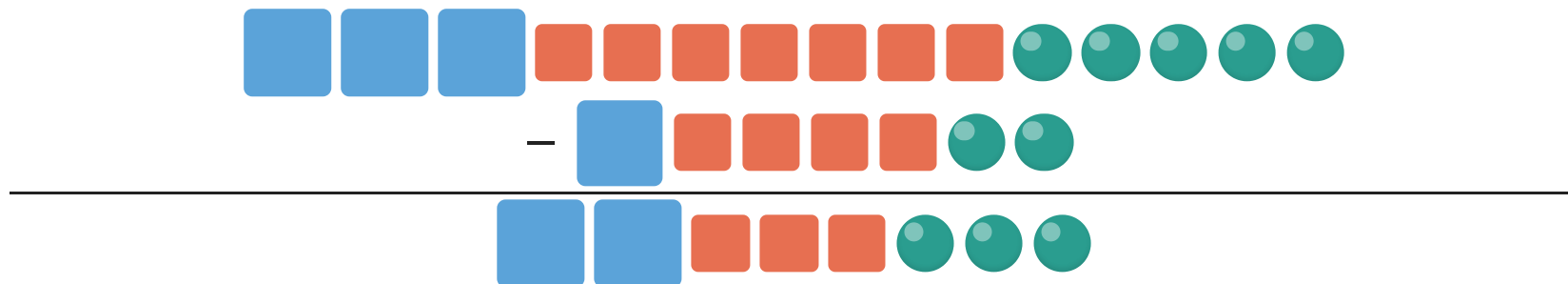


$$628 + 351 = \boxed{}$$

13. Subtraction within 1000

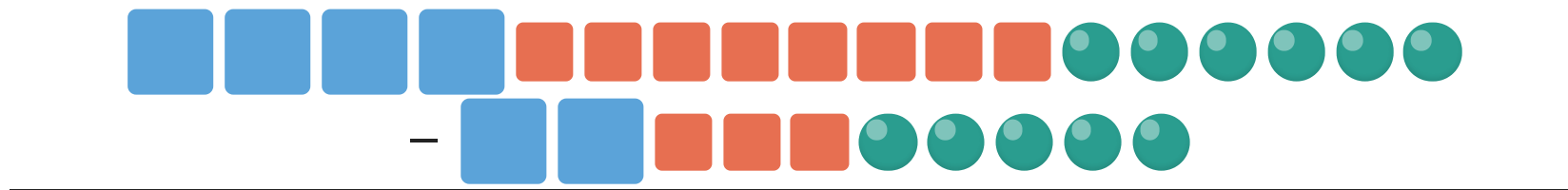
 =100  =10  =1

a)



$$375 - 142 = 233$$

b)

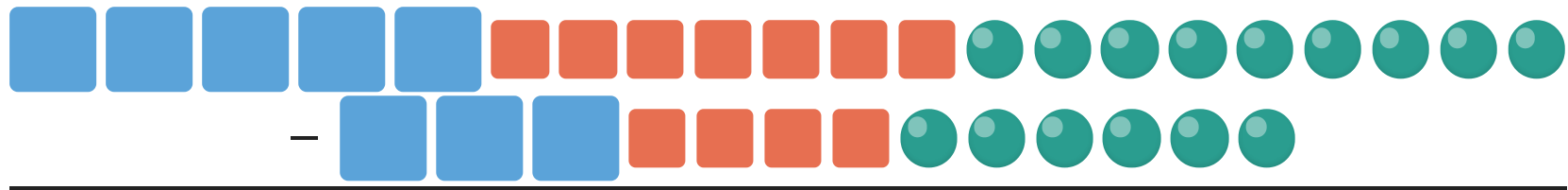


$$486 - 235 = \boxed{}$$

13. Subtraction within 1000

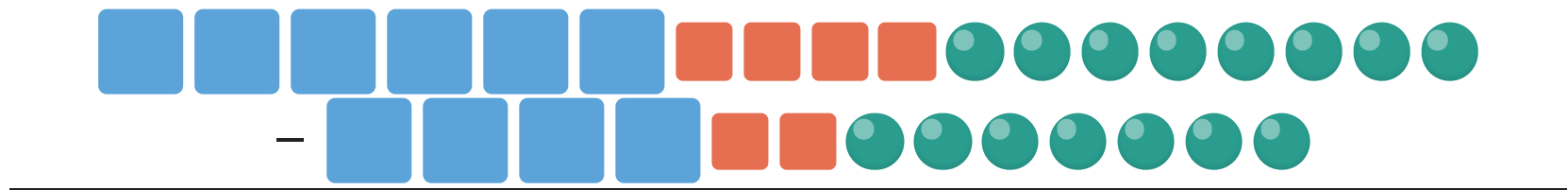
 =100  =10  =1

c)



$$579 - 346 = \boxed{}$$

d)

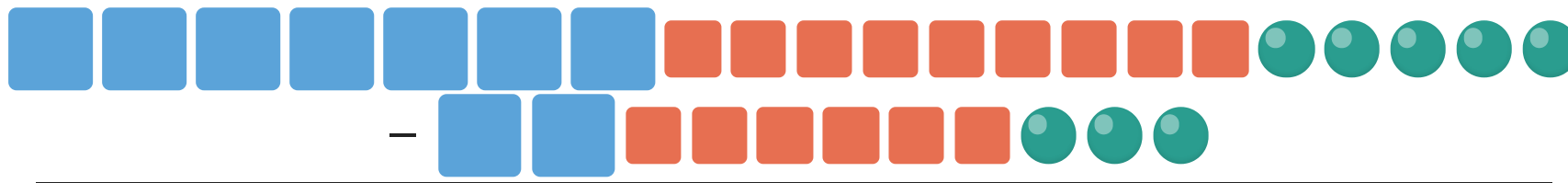


$$648 - 427 = \boxed{}$$

13. Subtraction within 1000

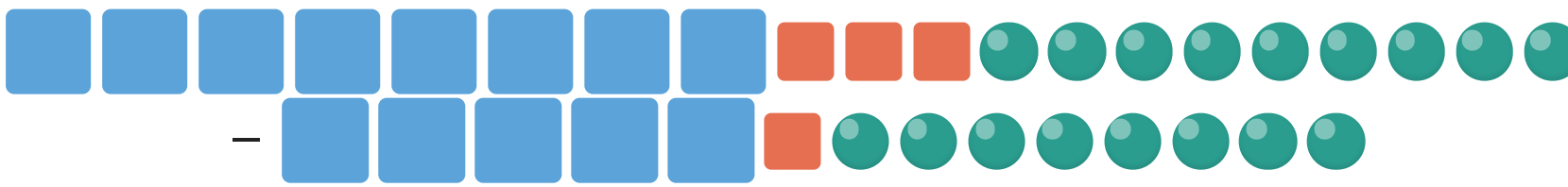
■ =100 ■ =10 ● =1

e)



$$795 - 263 = \square$$

f)



$$839 - 518 = \square$$

14. Multiplying by Multiples of Ten

a)

$$3 \times 20 = ?$$



$$3 \times 20 = 60$$

b)



$$4 \times 30 = \square$$

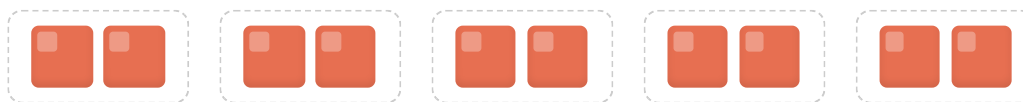
14. Multiplying by Multiples of Ten

c)



$$2 \times 50 = \square$$

d)



$$5 \times 20 = \square$$

14. Multiplying by Multiples of Ten

e)



$$3 \times 40 = \square$$

f)

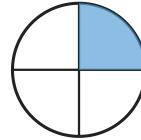


$$6 \times 10 = \square$$

15. Unit Fractions

a)

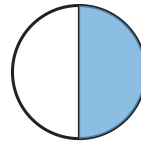
A circle is divided into 4 equal parts. Each part is $\frac{1}{4}$.



$\frac{1}{4}$

b)

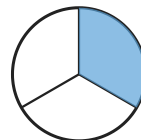
A circle is divided into 2 equal parts. What fraction is each part?



$1/$

c)

A circle is divided into 3 equal parts. What fraction is each part?

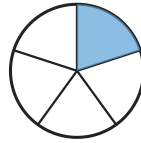


$1/$

15. Unit Fractions

d)

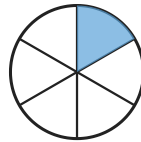
A circle is divided into 5 equal parts. What fraction is each part?



1/

e)

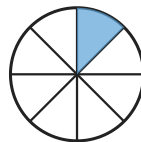
A circle is divided into 6 equal parts. What fraction is each part?



1/

f)

A circle is divided into 8 equal parts. What fraction is each part?



1/

16. Fractions on a Number Line

a)

Plot $\frac{1}{3}$ on the number line



b)

Plot $\frac{1}{2}$ on the number line



c)

Plot $\frac{1}{4}$ on the number line



16. Fractions on a Number Line

d)

Plot $\frac{2}{5}$ on the number line



e)

Plot $\frac{4}{6}$ on the number line



f)

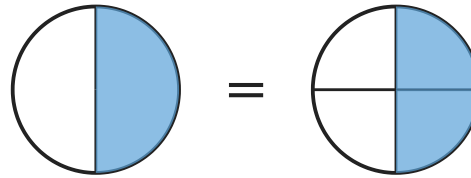
Plot $\frac{3}{8}$ on the number line



17. Equivalent Fractions and Comparison

a)

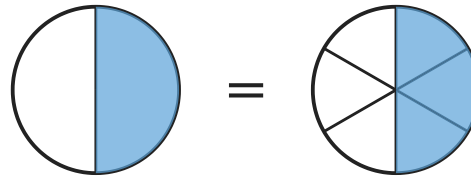
$1/2 = 2/4$, two circles have the same area



$$1/2 = 2/4$$

b)

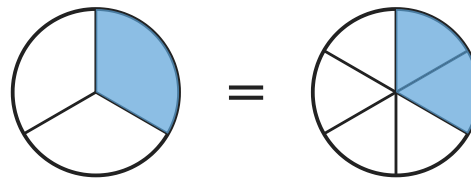
$1/2 = ?/6$



$$1/2 = \boxed{}/6$$

c)

$1/3 = ?/6$

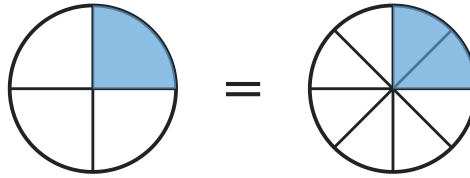


$$1/3 = \boxed{}/6$$

17. Equivalent Fractions and Comparison

d)

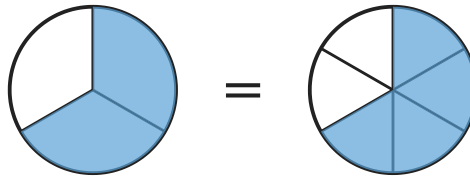
$$1/4 = ?/8$$



$$1/4 = \boxed{}/8$$

e)

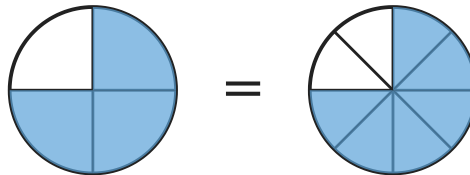
$$2/3 = ?/6$$



$$2/3 = \boxed{}/6$$

f)

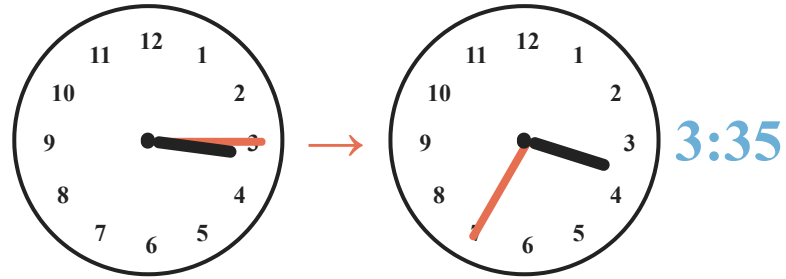
$$3/4 = ?/8$$



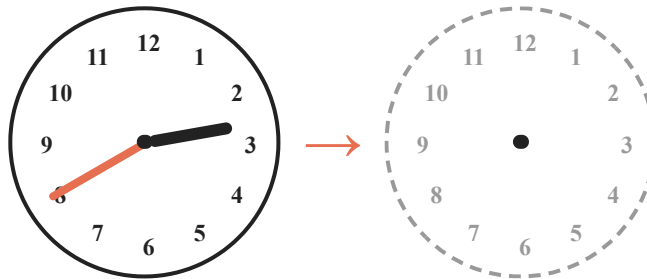
$$3/4 = \boxed{}/8$$

18.To the Minute

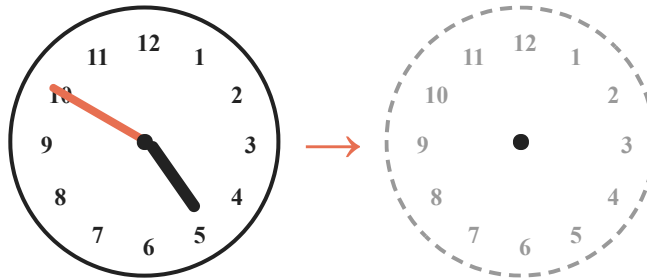
a) It is now 3:15. What time will it be in 20 minutes?



b) It is now 2:40. What time will it be in 25 minutes?

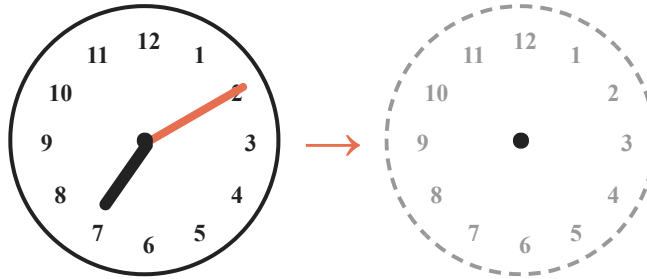


c) It is now 4:50. What time will it be in 15 minutes?

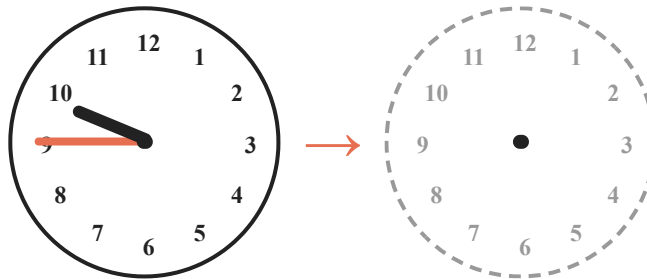


18.To the Minute

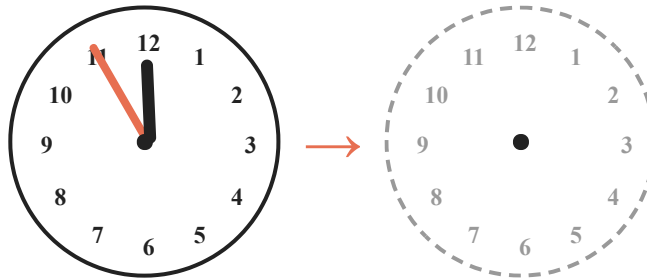
d) It is now 7:10. What time will it be in 30 minutes?



e) It is now 9:45. What time will it be in 20 minutes?



f) It is now 11:55. What time will it be in 10 minutes?



19. Volume and Mass

- a)** A kettle can hold **3** liters of water. Another kettle can hold **5** liters of water. How many liters can both kettles hold in total?

$$3 + 5 = 8 \text{ } \boxed{8 \text{ L}}$$

- b)** A bucket can hold **6** liters of water. Another bucket can hold **4** liters of water. How many liters can both buckets hold in total?

- c)** One bag of rice weighs **7** kilograms. Another bag of rice weighs **5** kilograms. How many kilograms do both bags weigh in total?

19. Volume and Mass

d) A bottle of juice has **500** milliliters. After drinking **200** milliliters, how many milliliters are left?

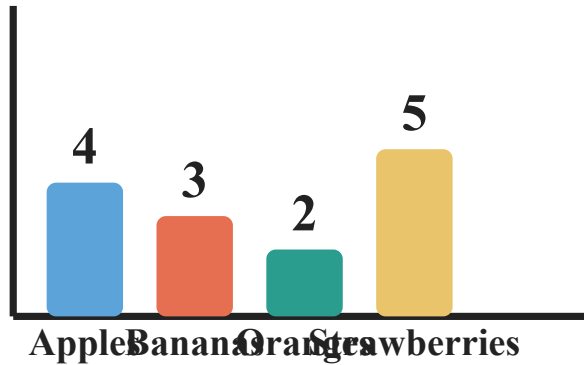
e) A box weighs **3** kilograms. It contains **4** kilograms of apples. How many kilograms do the box and apples weigh in total?

f) A water tank has **9** liters of water. After pouring out **5** liters, how many liters are left?

20.Bar Graphs

a)

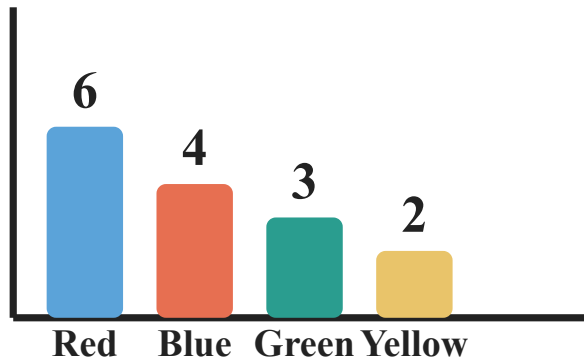
Xiao Ming counted the class's favorite fruits: Apples **4**, Bananas **3**, Oranges **2**, Strawberries **5**. Which fruit is the most popular?



Strawberries

b)

Xiao Hua counted the class's favorite colors: Red **6**, Blue **4**, Green **3**, Yellow **2**. Which color is the most popular?

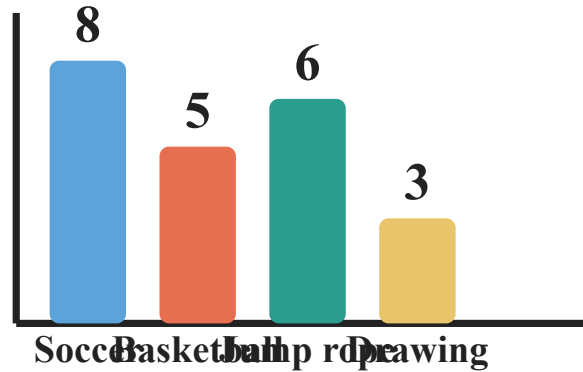


Which color is the most popular?

20. Bar Graphs

c)

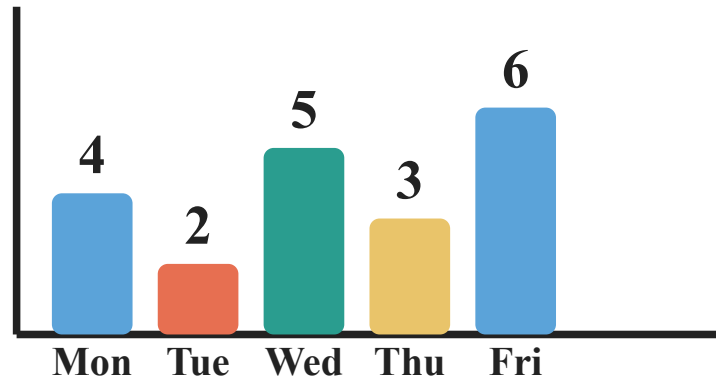
A class counted after-school activities: Soccer **8**, Basketball **5**, Jump rope **6**, Drawing **3**. How many more play soccer than draw?



How many more play soccer than draw?

d)

A bookstore counted books sold in a week: Mon **4**, Tue **2**, Wed **5**, Thu **3**, Fri **6**. Which two days sold the most books in total?

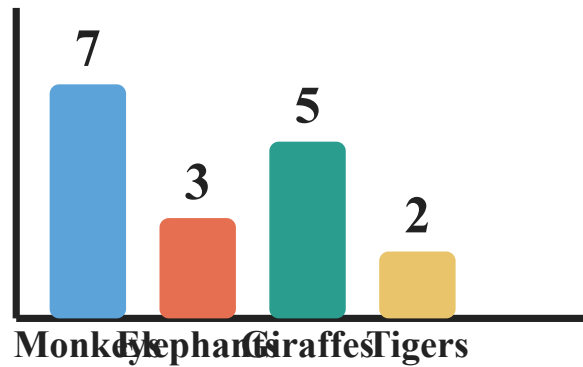


Which two days sold the most books in total?

20. Bar Graphs

e)

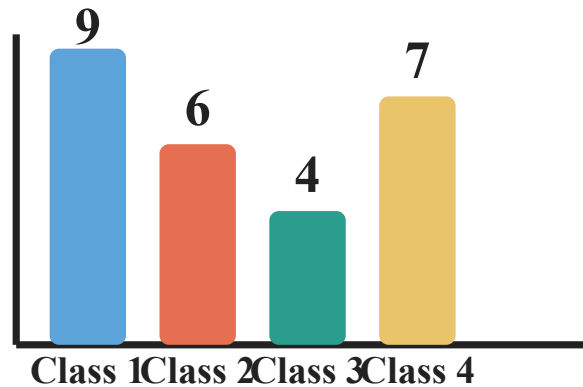
A zoo counted animals: Monkeys **7**, Elephants **3**, Giraffes **5**, Tigers **2**. How many times more monkeys are there than elephants?



How many times more monkeys are there than elephants?

f)

Four classes collected waste paper: Class 1 **9** kg, Class 2 **6** kg, Class 3 **4** kg, Class 4 **7** kg. How many kilograms did Class 1 and Class 3 collect together?



How many kilograms did Class 1 and Class 3 collect together?

21. Line Plots

a) Students measured the lengths of pencils (cm): 12, 12, 13, 12, 14, 13, 12.

① What is the longest pencil in cm? ② What is the shortest pencil in cm? ③ Which length appears most often?



b) Measured 7 ropes (cm): 15, 15, 16, 15, 17, 16, 15.

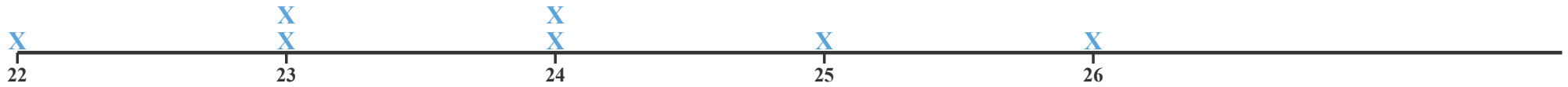
① What is the longest rope in cm? ② What is the shortest rope in cm? ③ Which length appears most often?



21. Line Plots

c) Recorded daily high temperatures for a week ($^{\circ}\text{C}$): 22, 24, 23, 25, 24, 26, 23.

① What is the highest temperature in $^{\circ}\text{C}$? ② What is the lowest temperature in $^{\circ}\text{C}$? ③ Which temperature appears most often?



d) Distances 8 children jumped (cm): 80, 85, 80, 85, 80, 95, 85.

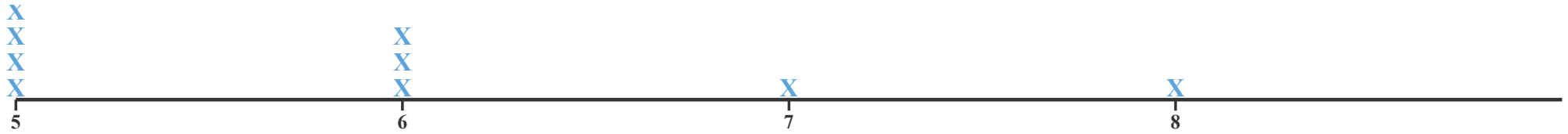
① What is the longest jump in cm? ② What is the shortest jump in cm? ③ Which distance appears most often?



21. Line Plots

e) Measured 9 leaves (cm): 5, 6, 5, 7, 6, 5, 8, 6, 5.

① What is the longest leaf in cm? ② What is the shortest leaf in cm? ③ Which length appears most often?



f) Recorded daily rainfall for a week (mm): 0, 5, 0, 10, 5, 0, 0.

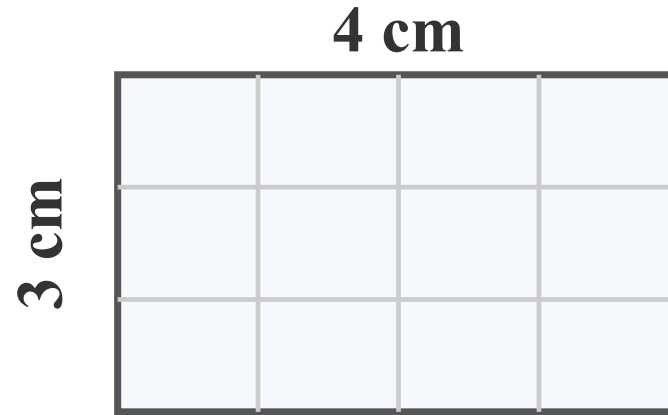
① What is the highest rainfall in mm? ② What is the lowest rainfall in mm? ③ Which rainfall amount appears most often?



22.Area: Counting Squares

a)

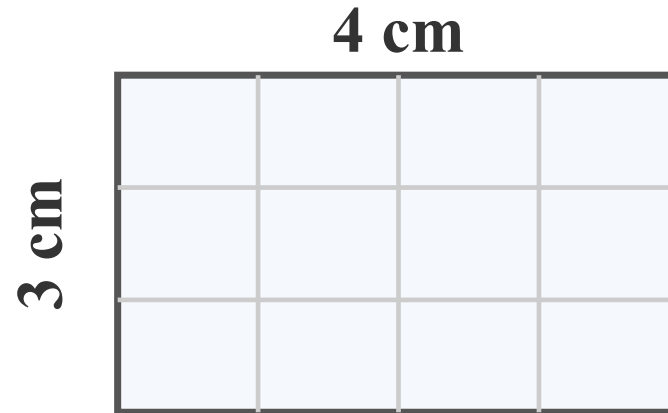
This rectangle is made of small squares. Each small square represents 1 cm^2 . What is the area in cm^2 ?



$$\text{Area} = 12 \text{ cm}^2$$

b)

Count the squares. What is the area of this rectangle in cm^2 ? (Each small square represents 1 cm^2)

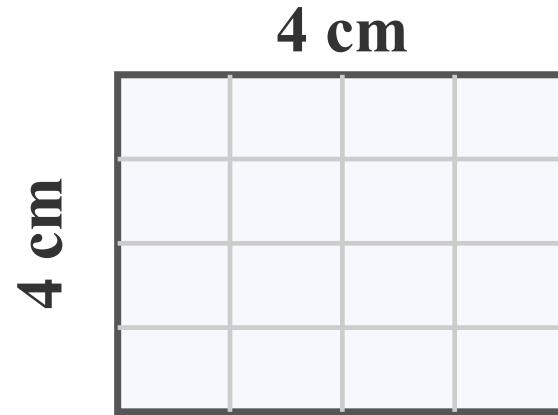


$$\text{Area} = \boxed{} \text{ cm}^2$$

22.Area: Counting Squares

c)

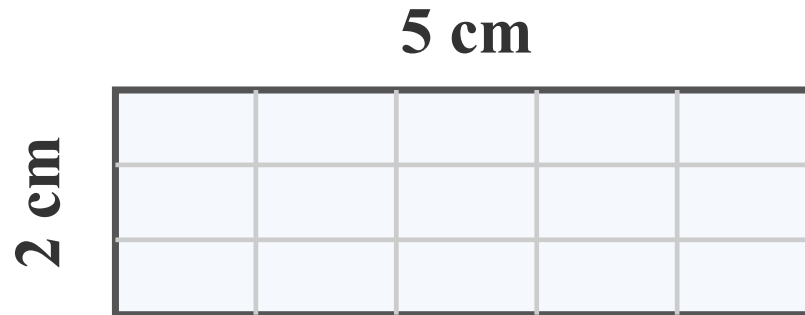
Count the squares. What is the area of this square in cm^2 ? (Each small square represents 1 cm^2)



Area = cm^2

d)

Count the squares. What is the area of this rectangle in cm^2 ? (Each small square represents 1 cm^2)

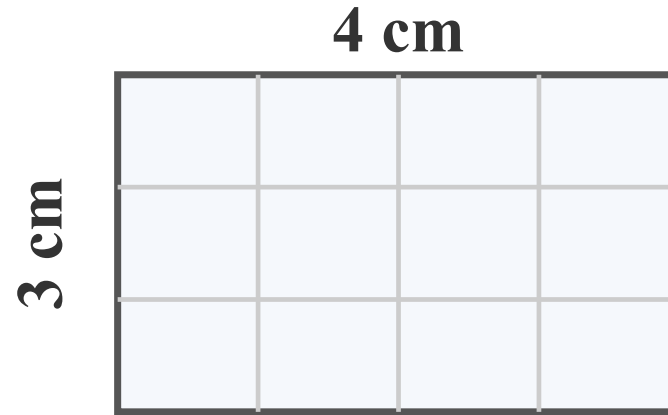


Area = cm^2

22.Area: Counting Squares

e)

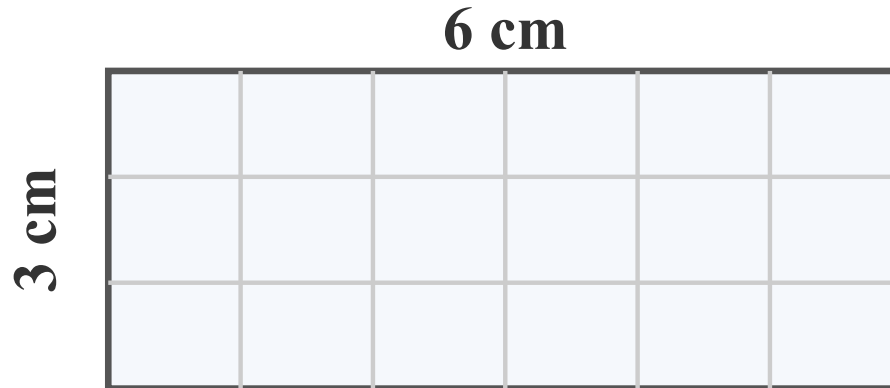
Count the squares. What is the area of this rectangle in cm^2 ? (Each small square represents 1 cm^2)



Area = cm^2

f)

Count the squares. What is the area of this rectangle in cm^2 ? (Each small square represents 1 cm^2)

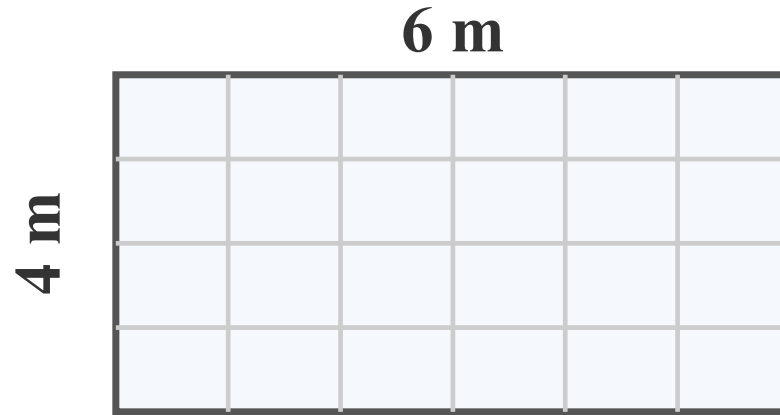


Area = cm^2

23. Area and Multiplication

a)

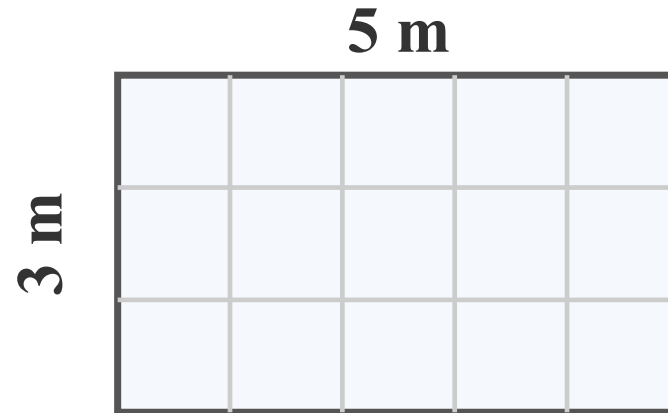
A rectangular garden is **6** meters long and **4** meters wide. What is the area in m^2 ? (Each small square represents 1 m^2)



$$6 \times 4 = 24 \text{ m}^2$$

b)

A rectangular flower bed is **5** meters long and **3** meters wide. What is the area in m^2 ? (Each small square represents 1 m^2)

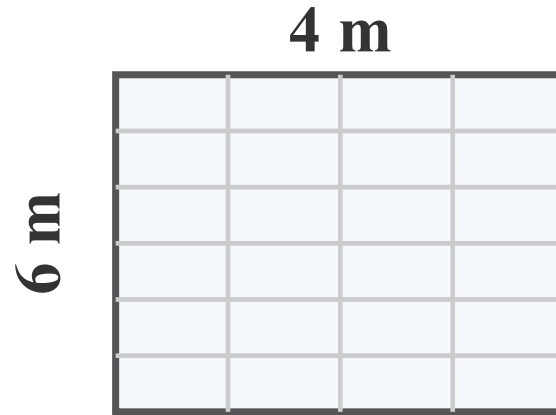


$$5 \times 3 = \boxed{} \text{ m}^2$$

23. Area and Multiplication

c)

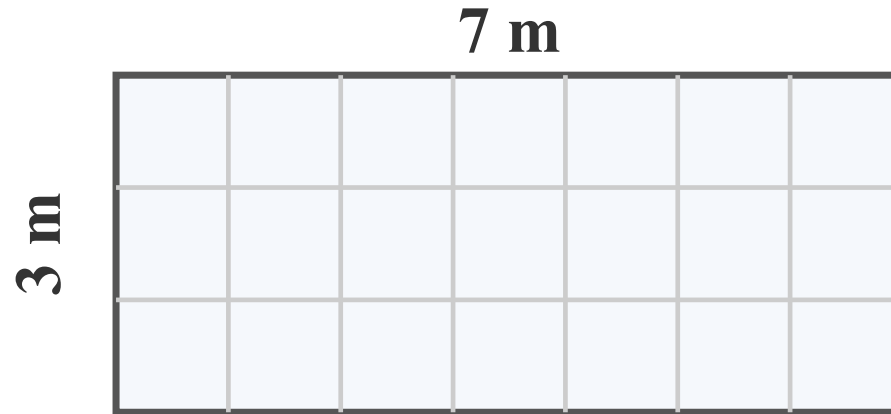
A rectangular vegetable plot is **4** meters long and **6** meters wide. What is the area in m^2 ? (Each small square represents 1 m^2)



$$4 \times 6 = \boxed{} \text{ m}^2$$

d)

A rectangular lawn is **7** meters long and **3** meters wide. What is the area in m^2 ? (Each small square represents 1 m^2)

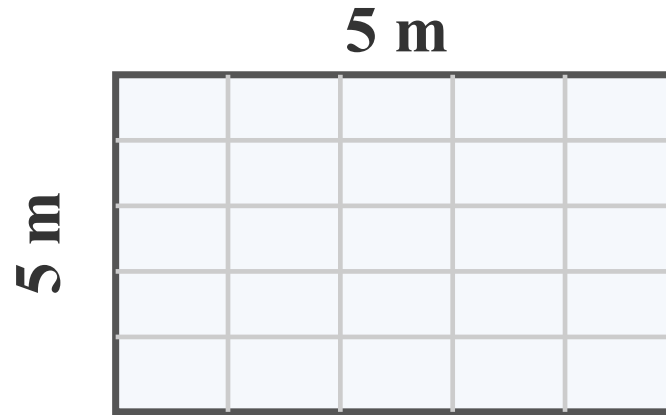


$$7 \times 3 = \boxed{} \text{ m}^2$$

23. Area and Multiplication

e)

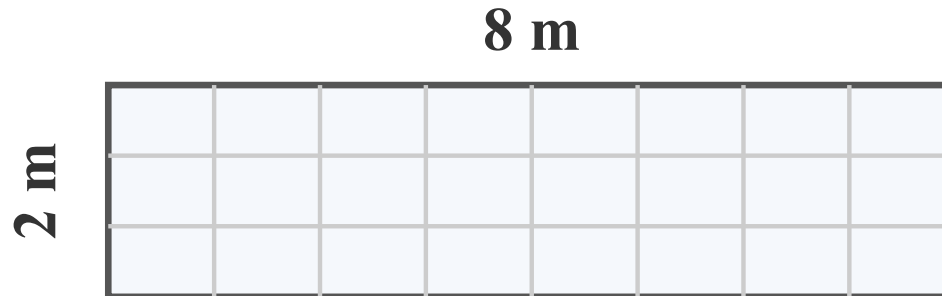
A square playground has sides of **5** meters. What is the area in m^2 ? (Each small square represents 1 m^2)



$$5 \times 5 = \boxed{} \text{ m}^2$$

f)

A rectangular pool is **8** meters long and **2** meters wide. What is the area in m^2 ? (Each small square represents 1 m^2)

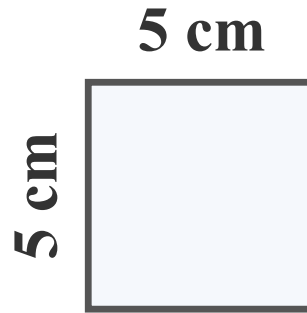


$$8 \times 2 = \boxed{} \text{ m}^2$$

24. Perimeter of Polygons

a)

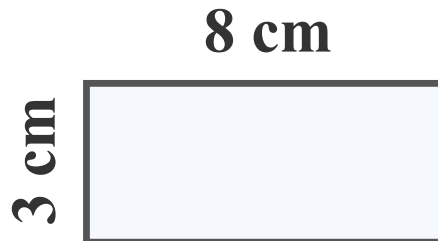
A square has sides of **5 cm**. What is its perimeter in cm?



$$5 \times 4 = 20 \text{ cm}$$

b)

A rectangle is **8 cm** long and **3 cm** wide. What is its perimeter in cm?

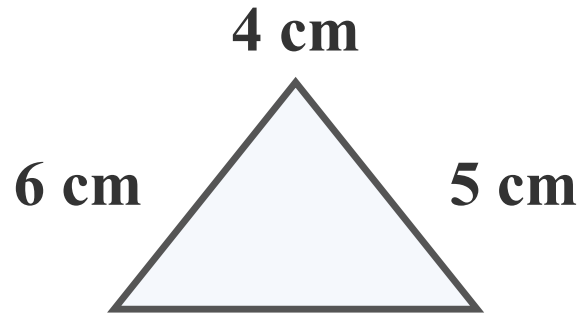


$$2 \times (8 + 3) = \boxed{} \text{ cm}$$

24. Perimeter of Polygons

c)

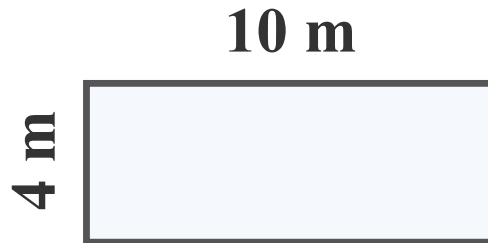
A triangle has sides of **4 cm**, **5 cm**, and **6 cm**. What is its perimeter in cm?



$$4 + 5 + 6 = \boxed{} \text{ cm}$$

d)

A rectangular playground is **10 m** long and **4 m** wide. What is its perimeter in m?

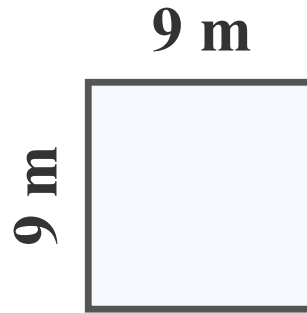


$$2 \times (10 + 4) = \boxed{} \text{ m}$$

24. Perimeter of Polygons

e)

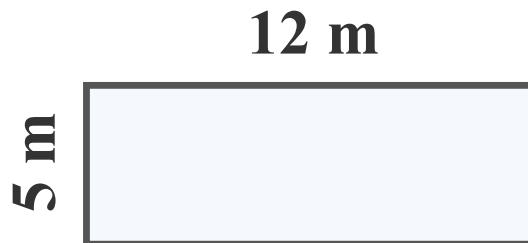
A square garden has sides of **9 m**. What is its perimeter in m?



$$9 \times 4 = \boxed{} \text{ m}$$

f)

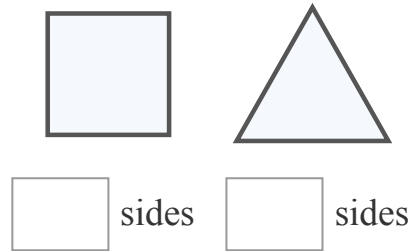
A rectangular pool is **12 m** long and **5 m** wide. What is its perimeter in m?



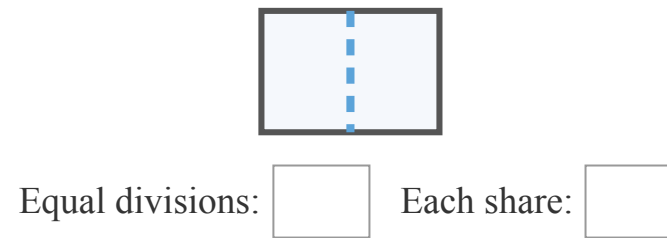
$$2 \times (12 + 5) = \boxed{} \text{ m}$$

25.Shape Classification and Partitioning

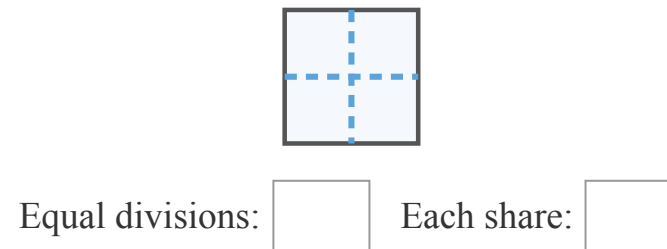
a)



b)

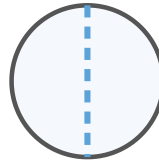


c)



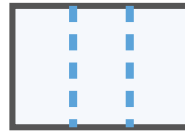
25.Shape Classification and Partitioning

d)



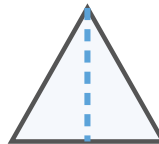
Equal divisions: Each share:

e)



Equal divisions: Each share:

f)



Equal divisions: Each share: