$\qquad$

## What Do We Know?

a)

| There are 6 strings on each guitar. |
| :--- |
| There are 18 strings. |

b) There are 24 strings on 4 guitars.
c) There are 3 hands on each clock. There are 15 hands altogether.
d) There are 18 holes in 6 sheets of paper.
e) There are 15 rings on 5 binders.
f) There are 15 people sitting on 5 couches.
g) There are 15 people sitting on couches, and 5 people fit on each couch.
h) There are 3 tennis balls in each can.

There are 12 tennis balls.
i) There are 5 cans each holding 3 tennis balls.
j) There are 24 apples in 6 bags.
k) There are 30 brussel sprouts on 5 plates.

H-59
$\qquad$

## Number Lines to Twenty


$\qquad$

## Using Multiplication Charts to Divide (1)

Jun wants to find $12 \div 3$ on the chart. He draws a rectangle starting at the dot.
Jun makes sure his rectangle has 3 rows.
He looks along the third row until he finds 12.
Then he finishes the rectangle.
Jun's rectangle has 4 squares in each row, so $12 \div 3=4$.

| $\times$ | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | $\mathbf{1}$ | 2 | 3 | 4 | 5 |
| $\mathbf{2}$ | 2 | 4 | 6 | 8 | 10 |
| $\mathbf{3}$ | 3 | 6 | 9 | 12 | 15 |
| $\mathbf{4}$ | 4 | 8 | 12 | 16 | 20 |
| $\mathbf{5}$ | 5 | 10 | 15 | 20 | 25 |

1. Use Jun's method to divide.
a) $8 \div 2$

| $\times$ | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | 1 | 2 | 3 | 4 | 5 |
| $\mathbf{2}$ | 2 | 4 | 6 | 8 | 10 |
| $\mathbf{3}$ | 3 | 6 | 9 | 12 | 15 |
| $\mathbf{4}$ | 4 | 8 | 12 | 16 | 20 |
| $\mathbf{5}$ | 5 | 10 | 15 | 20 | 25 |

b) $20 \div 4$

| $\times$ | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | 1 | 2 | 3 | 4 | 5 |
| $\mathbf{2}$ | 2 | 4 | 6 | 8 | 10 |
| $\mathbf{3}$ | 3 | 6 | 9 | 12 | 15 |
| $\mathbf{4}$ | 4 | 8 | 12 | 16 | 20 |
| $\mathbf{5}$ | 5 | 10 | 15 | 20 | 25 |

$$
\text { So } 8 \div 2=
$$

$\qquad$
c) $9 \div 3$

| $\times$ | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | 1 | 2 | 3 | 4 | 5 |
| $\mathbf{2}$ | 2 | 4 | 6 | 8 | 10 |
| $\mathbf{3}$ | 3 | 6 | 9 | 12 | 15 |
| $\mathbf{4}$ | 4 | 8 | 12 | 16 | 20 |
| $\mathbf{5}$ | 5 | 10 | 15 | 20 | 25 |

So $9 \div 3=$

So $20 \div 4=$ $\qquad$
d) $15 \div 5$

| $\times$ | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | $\mathbf{1}$ | 2 | 3 | 4 | 5 |
| $\mathbf{2}$ | 2 | 4 | 6 | 8 | 10 |
| $\mathbf{3}$ | 3 | 6 | 9 | 12 | 15 |
| $\mathbf{4}$ | 4 | 8 | 12 | 16 | 20 |
| $\mathbf{5}$ | 5 | 10 | 15 | 20 | 25 |

So $15 \div 5=$ $\qquad$
$\qquad$

## Using Multiplication Charts to Divide (2)

2. Use Jun's method to divide.
a) Use the chart to divide.

| $\times$ | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ | $\mathbf{6}$ | $\mathbf{7}$ | $\mathbf{8}$ | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{2}$ | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| $\mathbf{2}$ | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 19 | 20 | 22 | 24 |
| $\mathbf{3}$ | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 | 36 |
| $\mathbf{4}$ | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 | 44 | 48 |
| $\mathbf{5}$ | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| $\mathbf{6}$ | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 | 66 | 72 |
| $\mathbf{7}$ | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 | 77 | 84 |
| $\mathbf{8}$ | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 | 88 | 96 |
| $\mathbf{9}$ | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | 99 | 108 |
| $\mathbf{1 0}$ | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 |
| $\mathbf{1 1}$ | 11 | 22 | 33 | 44 | 55 | 66 | 77 | 88 | 99 | 110 | 121 | 132 |
| $\mathbf{1 2}$ | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 | 108 | 120 | 132 | 144 |

G. $12 \div 4=$ $\qquad$
O. $12 \div 3=$ $\qquad$
M. $99 \div 11=$ $\qquad$
H. $84 \div 7=$ $\qquad$ I. $11 \div 11=$ $\qquad$ T. $55 \div 5=$ $\qquad$
A. $30 \div 3=$ $\qquad$
A. $56 \div 8=$ $\qquad$ 0. $60 \div 12=$
$\qquad$
M. $8 \div 4=$ $\qquad$
D. $54 \div 9=$ $\qquad$
T. $96 \div 12=$ $\qquad$
b) Write the letters from part a) above the numbers that match your answers.
$\left[\frac{}{2}\right.$
$\overline{3} \overline{4} \overline{6}$
$\overline{7} \frac{}{8} \frac{}{10}-\frac{}{11} \frac{}{12}$ !

Do you see a sentence that makes sense? If not, find your mistake.
$\qquad$

## Patterns in Remainders

REMINDER - To divide 14 by 4, draw 14 dots and make as many groups of 4 as you can:


There are 3 groups of 4 dots and 2 dots left over, so

$$
14 \div 4=3 \mathrm{R} 2 .
$$

1. Divide using the picture. For parts f$)-\mathrm{i}$ ), you will need to divide the dots into groups.
a) $4 \div 4=$ $\qquad$ R $\square$
b) $5 \div 4=$ $\qquad$ R $\qquad$

c) $6 \div 4=$ $\qquad$ R
d) $7 \div 4=$ $\qquad$ R
e) $8 \div 4=$ $\qquad$ R

f) $9 \div 4=$ $\qquad$ R $\qquad$

- ○○○○○○○○○
g) $10 \div 4=$ $\qquad$ R $\qquad$
h) $11 \div 4=$ $\qquad$ R $\qquad$
$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$
$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$
i) $12 \div 4=$ $\qquad$ R
$\qquad$

2. Look at your answers to Question 1. How do you know when to increase the number of groups and when to increase the remainder?
3. Continue the pattern from Question 1 to find $13 \div 4,14 \div 4,15 \div 4$, and $16 \div 4$.
4. Use patterns to fill in the blanks as quickly as you can.
$5 \div 5=$ $\qquad$ R $\qquad$ $10 \div 5=$ $\qquad$ R $15 \div 5=$ $\qquad$ R $\qquad$
$6 \div 5=$ $\qquad$ R $\qquad$ $11 \div 5=\quad \mathrm{R}$ $\qquad$ $16 \div 5=\quad \mathrm{R}$ $\qquad$
$7 \div 5=$ $\qquad$ R $\qquad$
$12 \div 5=$ $\qquad$ R
$\qquad$ R $\qquad$
$8 \div 5=$ $\qquad$ R $\qquad$
$13 \div 5=$ $\qquad$ R $18 \div 5=\quad \mathrm{R}$ $\qquad$
$9 \div 5=$ $\qquad$ R $\qquad$
$14 \div 5=$ $\qquad$ R $\qquad$ $19 \div 5=$ $\qquad$ R $\qquad$

NAME
DATE $\qquad$

## Division Word Problems

1. Seven T-shirts cost $\$ 84$. How much is each T-shirt?
2. One litre of oil weighs 4 kg . How many litres are in 96 kg of oil?
3. A group of friends wins $\$ 75$ in a lottery.
a) How much money will each person get if there are 5 people in the group?
b) How much will each person get if there are 3 people in the group?

Bonus: How much will each person get if there are 15 people in the group?
4. Alexa skip counts by 3s. Megan skip counts by 7s. They stop on the same number between 40 and 50 . What number do they stop at?
5. Three friends decide to share their sticker collections evenly. Jin has 46 stickers, Sandy has 123 stickers, and Luc has 200. How many stickers will they each have after sharing?

顿 $6.1 \mathrm{~cm}=10 \mathrm{~mm}$. Convert the centimetres to millimetres.
a) 5 cm
b) 12 cm
C) 27 cm
d) 142 cm
7. Convert the millimetres to centimetres.
a) 20 mm
b) 350 mm
c) 470 mm
d) 2350 mm
8. An empty piggy bank weighs 500 g . Dimes weigh 2 g , nickels weigh 5 g ,
and toonies weigh 7 g .
a) The piggy bank is filled with dimes and weighed again. It now weighs 900 g . How much money is in the piggy bank?
b) The piggy bank is filled with nickels and weighed again. It now weighs 1250 g . How much money is in the piggy bank?
c) The piggy bank is filled with toonies and weighed again. It now weighs 724 g . How much money is in the piggy bank?
9. There are 100 centimetres in 1 metre. Convert the centimetres to metres.
a) 500 cm
b) 700 cm
c) 1200 cm
d) 4500 cm
$\qquad$

## Multi-Step Word Problems

1. a) There are 12 blue beads. There are 3 times as many blue beads as red beads.

There are 7 fewer yellow beads than blue beads.
How many red beads are there? $\qquad$ How many yellow beads are there? $\qquad$
b) Ivan is 3 times older than Lynn. Dory is 4 years older than Lynn. Lynn is 6 years old.

How old is Ivan? $\qquad$ How old is Dory? $\qquad$
2. Marla is 2 years older than Ren. Ren is 10 years old. Ren is 7 years older than Ed. How old are Marla and Ed?

Marla is $\qquad$ years old and Ed is $\qquad$ years old.
3. David bought 6 books about mammals and 2 books about reptiles. Each book cost $\$ 12$.
a) How many books did David buy altogether? $\qquad$
b) How much did the books cost? $\qquad$ _
4. Arsham bought 7 books and 10 magazines. (See the prices in the picture.)
a) How much did Arsham spend on books? $\qquad$
b) How much did Arsham spend on magazines? $\qquad$
c) How much did Arsham spend altogether? $\qquad$

5. What question do you need to ask and answer before you can solve the problem?
a) Emma has twice as many hockey cards as Carl does. Emma has 10 more hockey cards than Jay. Jay has 16 hockey cards. How many cards does Carl have?

How many cards does Emma have?
b) Ken is twice as old as Yu. Yu is 3 years older than Sharon. Sharon is 5 years old. How old is Ken?
c) Rani had $\$ 53$. She spent $\$ 15$ on a hat, $\$ 8$ on a scarf, and $\$ 12$ on a pair of mitts. How much money does Rani have left?
6. Nina earns $\$ 15$ per hour. She worked 3 hours on Friday, 2 hours on Saturday, and 2 hours on Sunday. How much money did Nina earn in these 3 days?

## Nonsense Word Problems (1)

> There are
$\qquad$
$\qquad$ .

## There are

$\qquad$ times as many $\qquad$ as $\qquad$ -.

How many $\qquad$ are there?

There are $\qquad$ .

There are $\qquad$ times as many as $\qquad$ -.

How many $\qquad$ are there?

Sara has $\qquad$ .
Sara has times as many ..... as
How many
$\qquad$ does Sara have?

Kyle has $\qquad$ -

Kyle has $\qquad$ times as many $\qquad$ as $\qquad$ .

How many $\qquad$ does Kyle have?

There are $\qquad$ $\underline{ }$ in the pet store.

There are $\qquad$ times as many as $\qquad$ -.

How many $\qquad$ are in the pet store?

There are $\qquad$ in the zoo.

There are $\qquad$ times as many $\qquad$ as $\qquad$ .

How many are there in the zoo?

$$
\mathrm{A}
$$ costs \$

A $\qquad$ costs $\qquad$ times as much as
$\qquad$ .

## How much does

$\qquad$ cost?

A $\qquad$ weighs $\qquad$ kilograms.

A $\qquad$ weighs $\qquad$ times as much as $\qquad$ -

How heavy is $\qquad$ ?
$\qquad$

## Nonsense Word Problems (2)



