Name _____

Selection

of

Problems #2

Tor is a secret number.

Tor is one of these numbers.

⑩ | ⇒
● |

= _____

● | ⑦
|

= _____

⑧ | ●
● |

= _____

● | ⑤
|

= _____

●● ● |
|

= _____

| ③
③ |

= _____

Multiples of 7   **Greater than 50**

Tor
●

Who is Tor? _____
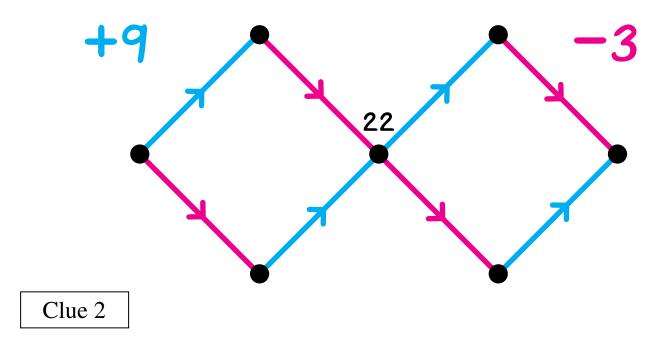
Fill in the boxes so that the calculations are correct.

$$
\begin{array}{r}
8\ 2\ 7\ 4 \\
+\ \square\ 6\ \square \\
\hline
\square\ 7\ \square\ 9
\end{array}
\qquad
\begin{array}{r}
\square\ \square\ 3\ 9 \\
+\ 1\ 2\ 4\ \square \\
\hline
5\ 9\ \square\ 2
\end{array}
$$

$$
\begin{array}{r}
\square\ 3\ \square\ 9 \\
-\ 1\ 0\ 3\ \square \\
\hline
6\ \square\ 1\ 6
\end{array}
\qquad
\begin{array}{r}
3\ 8\ 7\ 5\ \square \\
-\ 2\ \square\ \square\ 4 \\
\hline
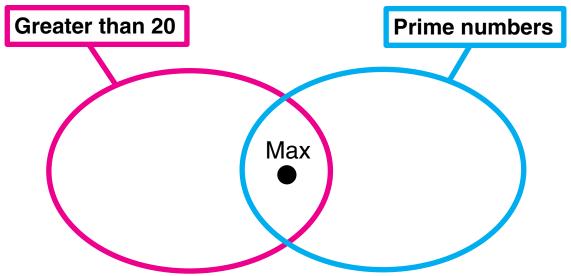\square\ \square\ 9\ 3\ 7
\end{array}
$$

Extend this line segment until it is 8 cm long.

How much longer did you make the segment? _____cm

Extend this line segment until it is 14.3 cm long.

How much longer did you make the segment? _____cm

Extend this line segment until it is 11.6 cm long.

How much longer did you make the segment? _____cm
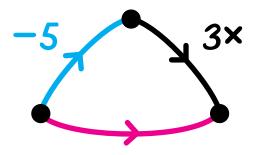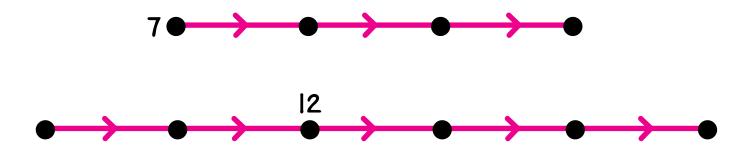
Max is a secret number.

Max is in this arrow picture.

+9   **−3**

22

Greater than 20   **Prime numbers**

Max

Who is Max? _____

Complete these number sentences.

$$37 \times 3 = \boxed{}$$

$$37 \times 6 = \boxed{}$$

$$37 \times 9 = \boxed{}$$

$$37 \times 12 = \boxed{}$$

$$37 \times \boxed{} = 555$$

·
·
·

$$37 \times 27 = \boxed{}$$

$$37 \times 30 = \boxed{}$$ SURPRISE!
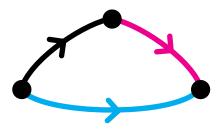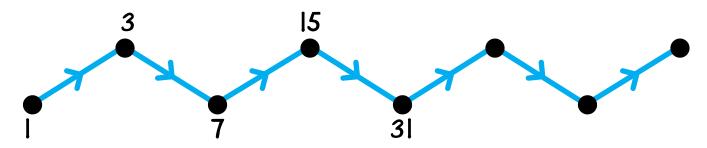
Use this two-step rule for red arrows to label the dots.

7 ●——→●——→●——→●

●——→●——→ 12 ●——→●——→●

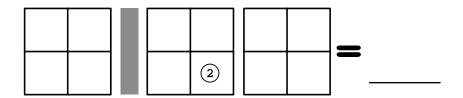
Guess My Rule

Find a two-step rule for blue arrows. Indicate the rule above and label the remaining dots using this rule.

3   15

1   7   31

Put each number on the Minicomputer by adding exactly one regular checker. There may be more than one solution.
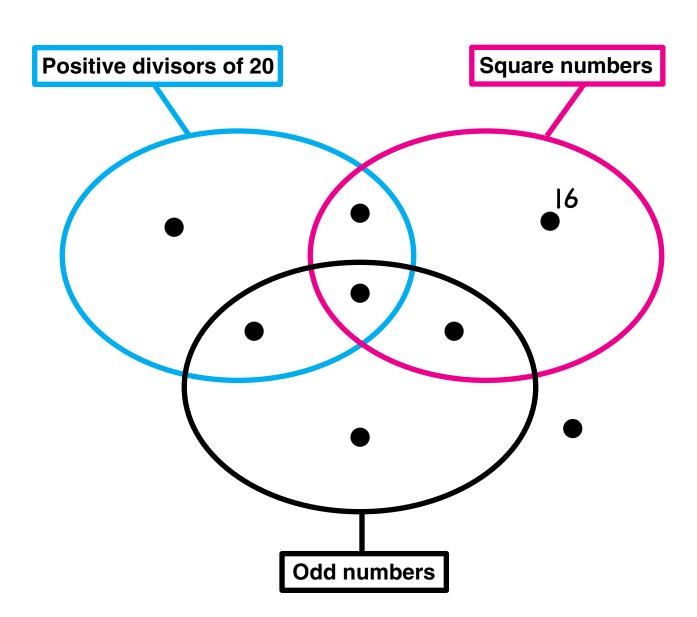
An odd number

 = _____

A number less than $\widehat{5}$

 = _____

A positive divisor of 28

 = _____

A multiple of 7

 = _____

A positive prime number

 = _____

A square number

 = _____
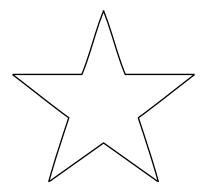
A number between 0.25 and 0.3

 = _____

Label each dot in the string picture with one of these numbers.
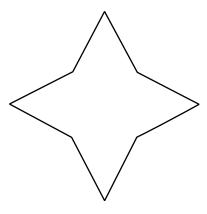One dot is labeled for you.
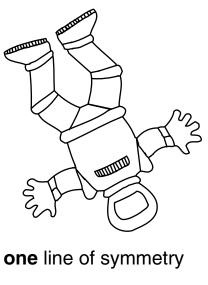
1   4   5   6   9   10   11   16

Positive divisors of 20

Square numbers

16

Odd numbers

Draw all of the lines of symmetry for each picture.
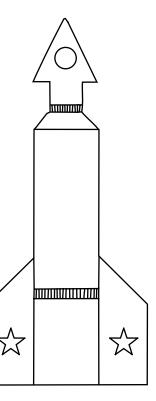
five lines of symmetry
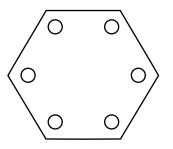
four lines of symmetry

one line of symmetry

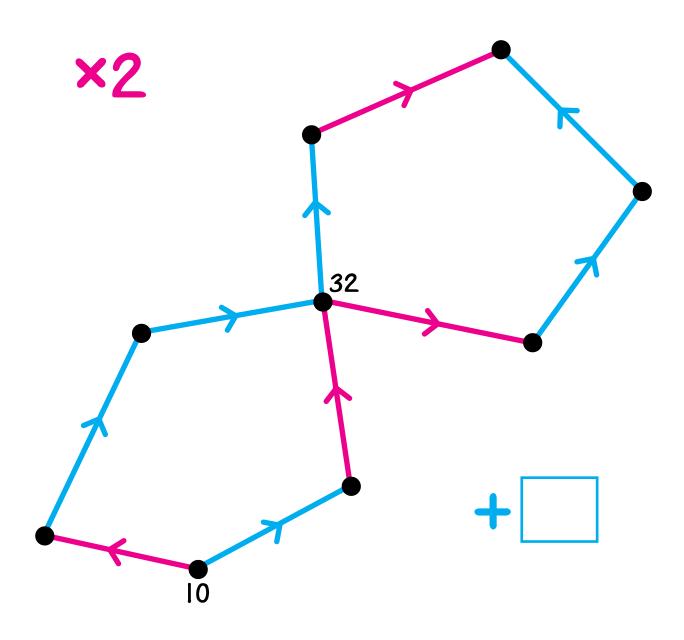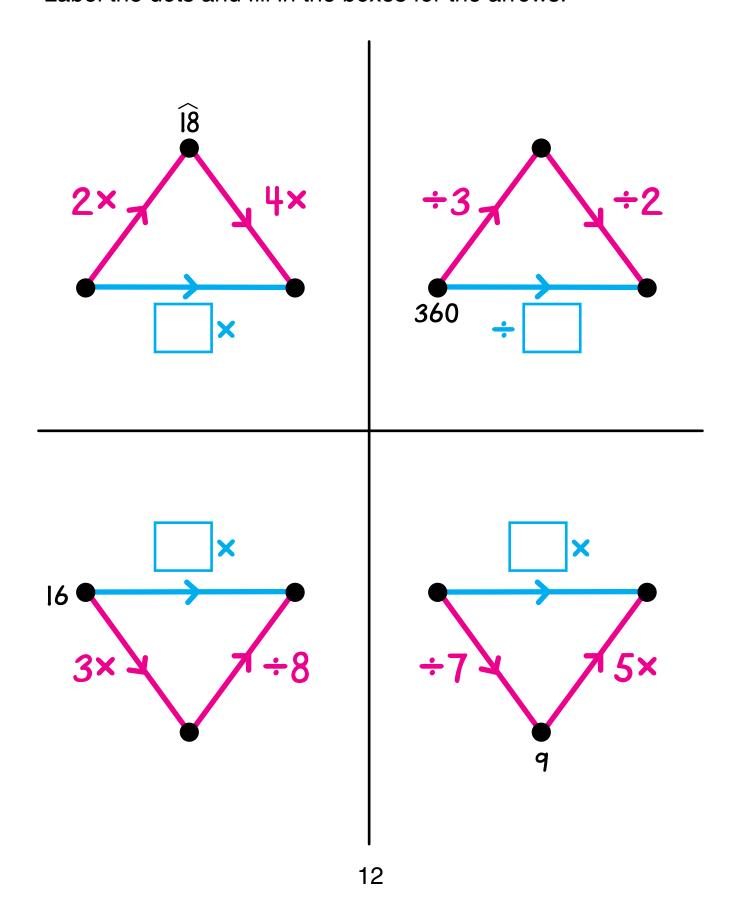**six** lines of symmetry

one line of symmetry

10

Label the dots and fill in the box for the blue arrows.

×2

32

10

11

+ 6

Label the dots and fill in the boxes for the arrows.

18

2×   4×

[ ] ×

÷3   ÷2

360   ÷ [ ]

[ ] ×
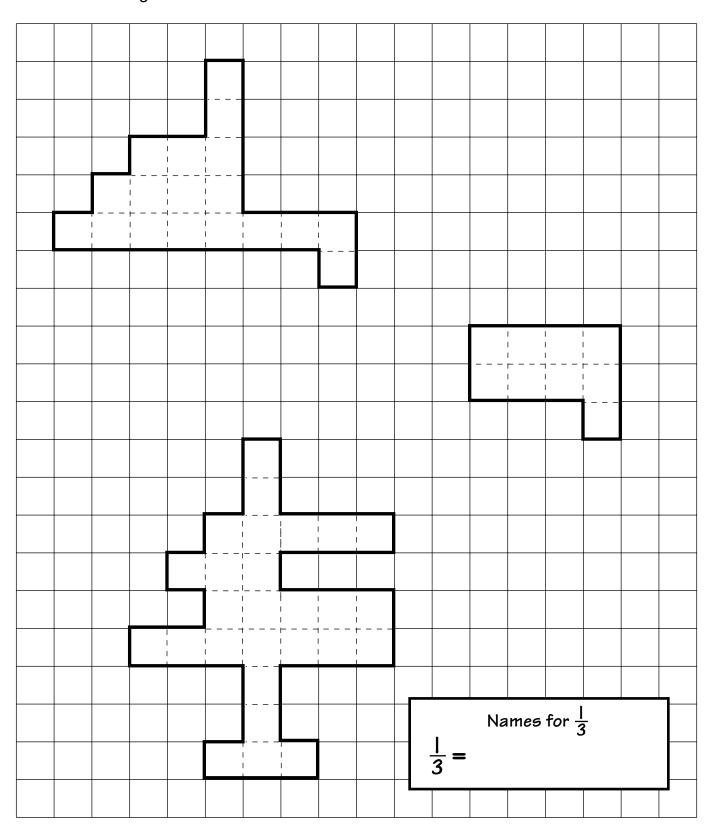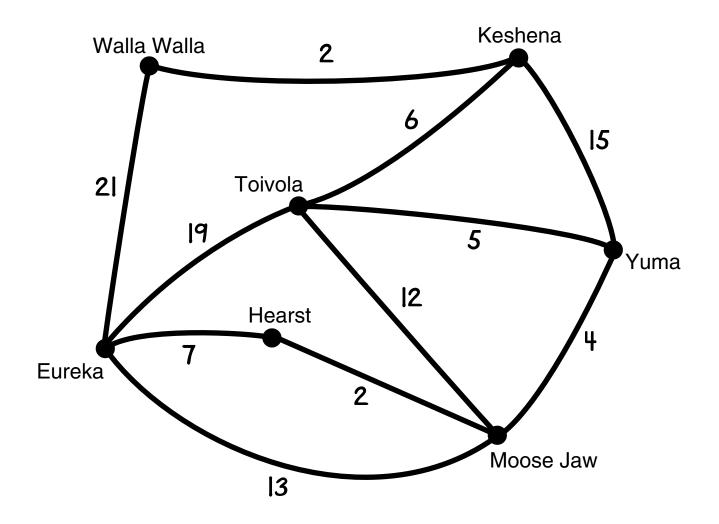
16

3×   ÷8

[ ] ×

÷7   5×

9

12

Give the dimensions of at least four boxes that can be built using exactly 60 centimeter cubes. One is done for you.

Volume: 60 cm³

---

5 cm by 2 cm by 6 cm

_____

_____

_____

_____

_____

_____

60 of these [cube] will make this box. [box diagram]

Multiply.

```
    85          8.5
  × 46        × 46
  ____        ____
```

```
   3921        39.21
    × 7         × 7
   ____        _____
```

```
   805        0.805
   × 8         × 8
   ___        _____
```

Color one-third of each shape blue. Use the pictures to find other names for $\frac{1}{3}$.

Names for $\frac{1}{3}$

$\frac{1}{3} =$

What is the length of the shortest route between Eureka and Keshena? _____

What is the length of the shortest route between Keshena and Moose Jaw? _____

What is the length of the shortest route between Eureka and Toivola? _____

The red label is one of these:

Multiples of 3
Multiples of 5
Odd numbers
Less than 50
Greater than 20
Positive divisors of 12
Positive divisors of 30

The blue label is one of these:
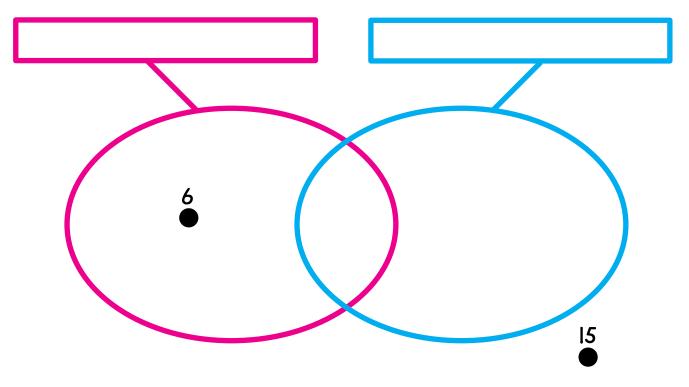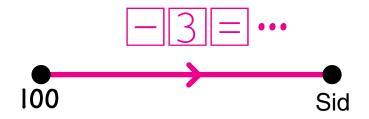
Multiples of 3
Multiples of 5
Odd numbers
Less than 50
Greater than 20
Positive divisors of 12
Positive divisors of 30

Label the strings.

6

15

$- \boxed{3} \boxed{=} \cdots$

100 ●————→———● Sid
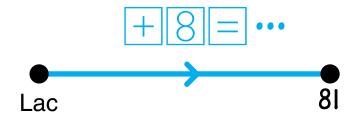
Circle the numbers below that Sid could be.

97   103   40

90   80   3

$+ \boxed{8} \boxed{=} \cdots$

Lac ●————→———● 81

Circle the numbers below that Lac could be.

70   41   1

65   0 $\widehat{8}$

Xaf is a secret number.

Xaf is the ending number of a road starting at 1 and using exactly two red arrows and one blue arrow.
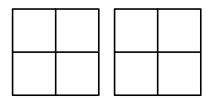
$$-3 \qquad 4\times$$

I
●

Xaf could be _____, _____, or _____.

Clue 2

Xaf cannot be put on this Minicomputer with exactly one regular checker and one negative checker.

Who is Xaf? _____

Match – No Match

Two players, Match and No Match, play a game with two coins. They toss the two coins together and observe the way the coins land. For example:

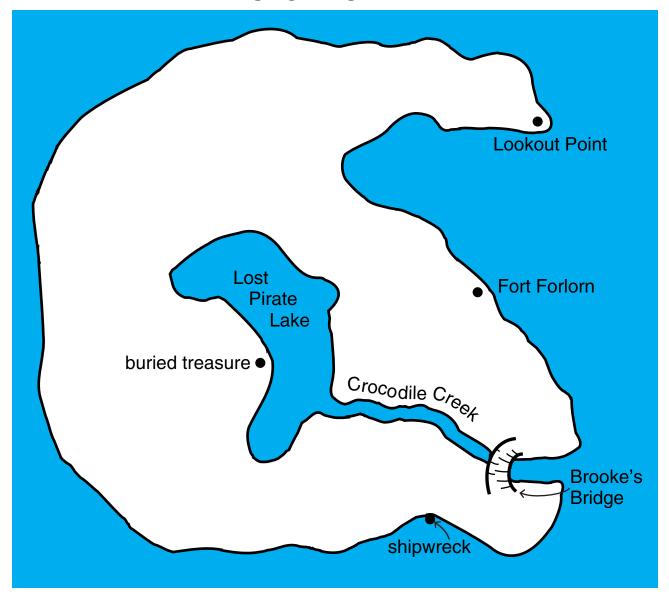| Match	No Match
Match gets a point.	No Match gets a point.

Is this a fair game? Explain.

Suppose one of the coins is replaced with a two-headed coin. Then one coin has heads on both sides and the other coin still has a head side and a tail side. Match and No Match play the same game with these two coins.

Is this a fair game? Explain.

SKULL ISLAND

Draw a zig-zag path as short as possible between the places listed below. (You cannot go through any water.)

Then measure in centimeters the length of each zig-zag path.

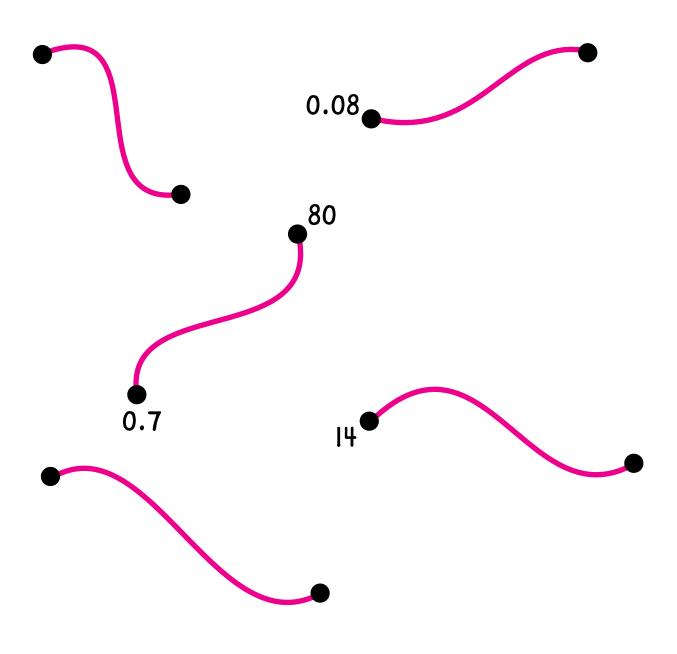Fort Forlorn and shipwreck _____cm

Lookout Point and Fort Forlorn _____cm

Fort Forlorn and buried treasure _____cm

Lookout Point and shipwreck _____cm

21

Two numbers can be joined by a red cord
if and only if
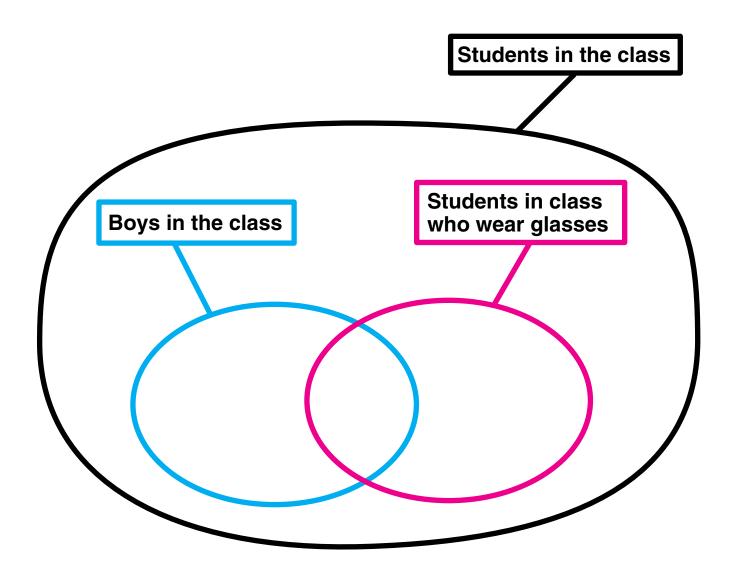their product is 56.

Label the dots.

0.08

80

0.7

14

There are 20 students in the class.

6 boys in the class do not wear glasses.

11 students in the class are boys.

7 students in the class wear glasses.

Students in the class

Boys in the class
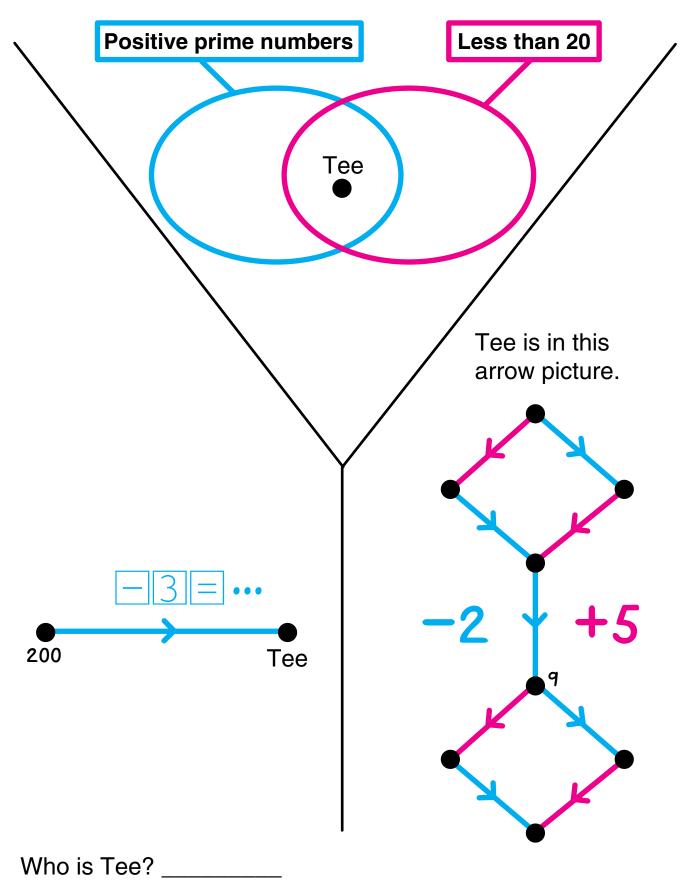
Students in class who wear glasses

How many boys in the class wear glasses? _____
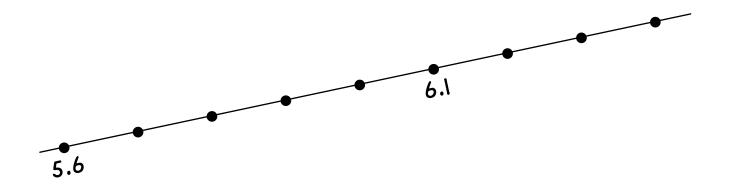
How many girls are there in the class? _____
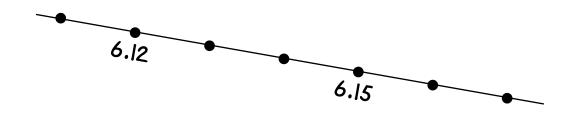
How many girls in the class do not wear glasses? _____

Tee is a secret number.

Positive prime numbers   **Less than 20**

Tee

Tee is in this arrow picture.

$-\boxed{}\boxed{3}\boxed{=}\cdots$
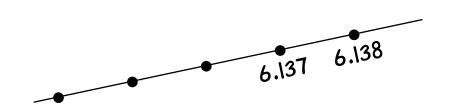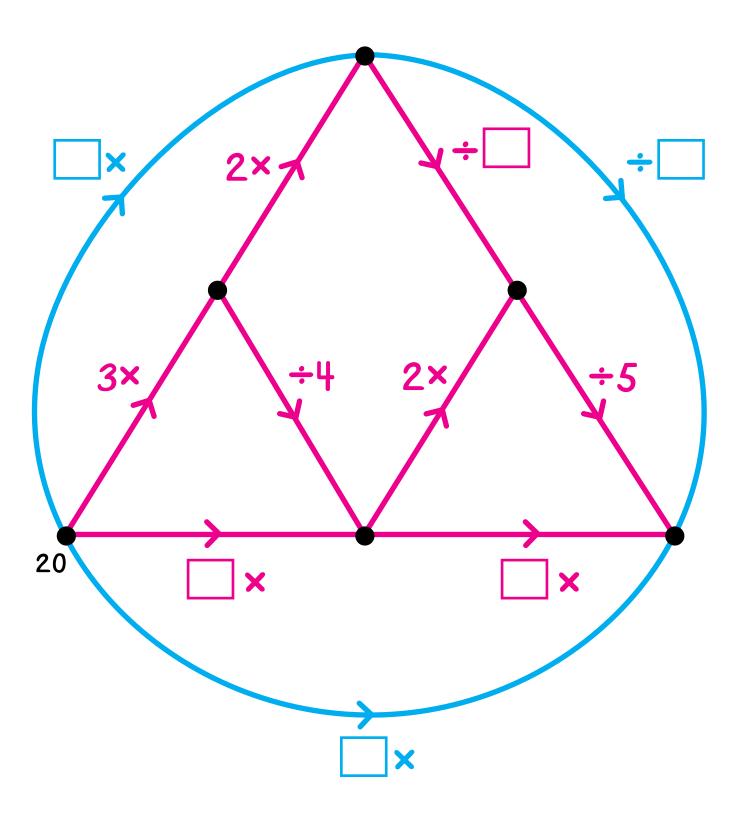
200 ⟶ Tee

−2   +5

q

Who is Tee? _____

Label the dots on each number line.

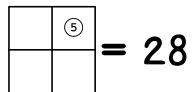Then put a red dot on each line for 6.1375.

6.1

5.6

6.12

6.15

6.137   6.138

Label the dots and fill in the boxes for the arrows.

$\square \times$

$2\times$

$\div \square$

$\div \square$

$3\times$

$\div 4$

$2\times$

$\div 5$

20
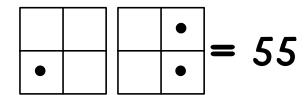
$\square \times$

$\square \times$

$\square \times$
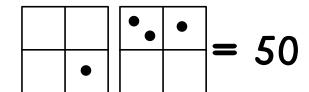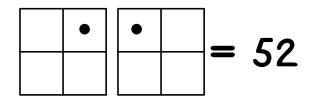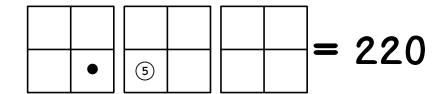
Put either a regular checker or a ③-checker on each Minicomputer to show each of these numbers.

$= 28$

$= 50$

$= 20$

$= 104$

$= 70$

$= 52$

$= 55$

$= 220$

Wipe-Out

Fill in the boxes for the arrows.

$6\frac{3}{8}$

$- \boxed{}$

$6\frac{2}{8}$

$- \boxed{}$

6

$- \boxed{}$

$4\frac{1}{8}$

$- \boxed{}$

$2\frac{1}{8}$

$- \boxed{}$

0

$- \boxed{}$

$\frac{7}{8}$

$- \boxed{}$

$1\frac{5}{8}$
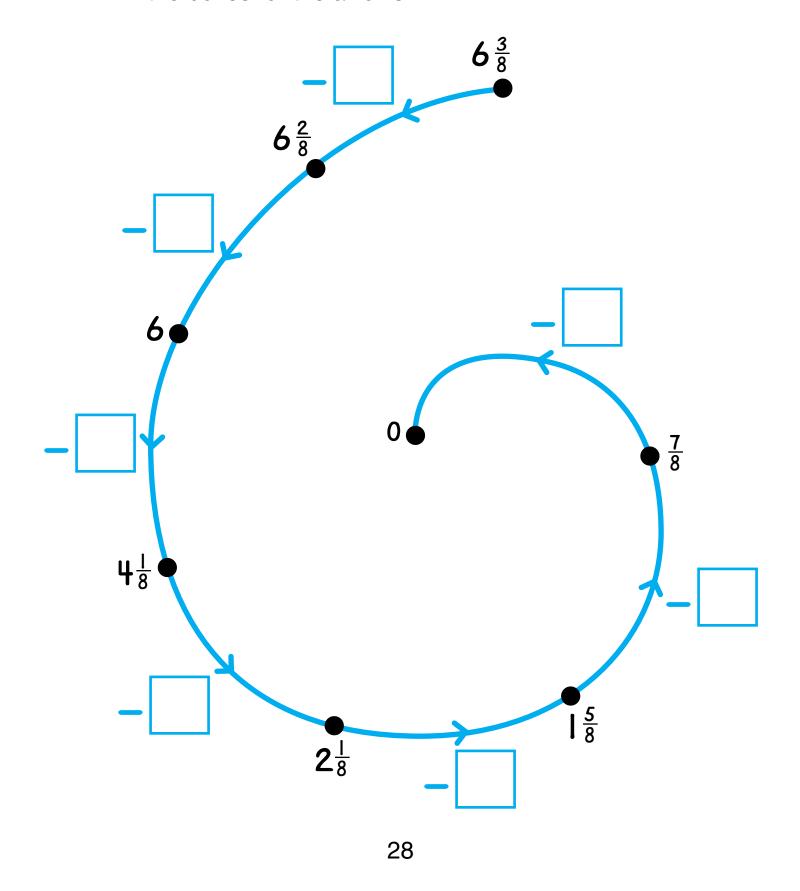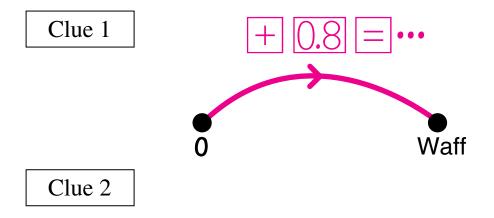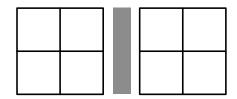
Waff is a secret number.

$$+ \boxed{0.8} = \cdots$$

0   Waff
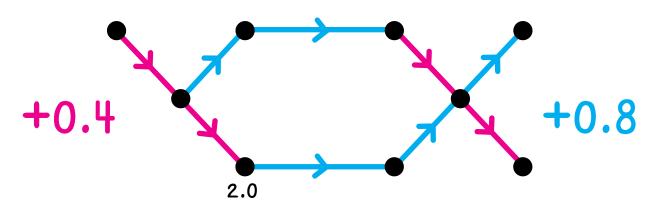
Waff can be put on this Minicomputer with exactly two regular checkers, one on each board.

Waff could be _____, _____, or _____.

Waff is in this arrow picture.

+0.4   +0.8

2.0

Who is Waff? _____

The red label is one of these:

Less than 20
Greater than $\widehat{10}$
Multiples of 2
Multiples of 4
Positive divisors of 18
Positive divisors of 20

The blue label is one of these:
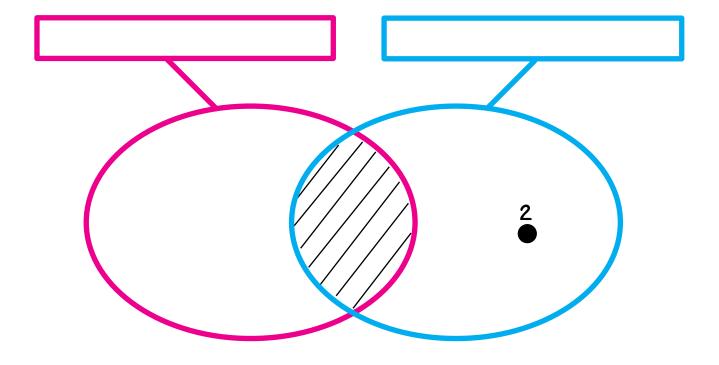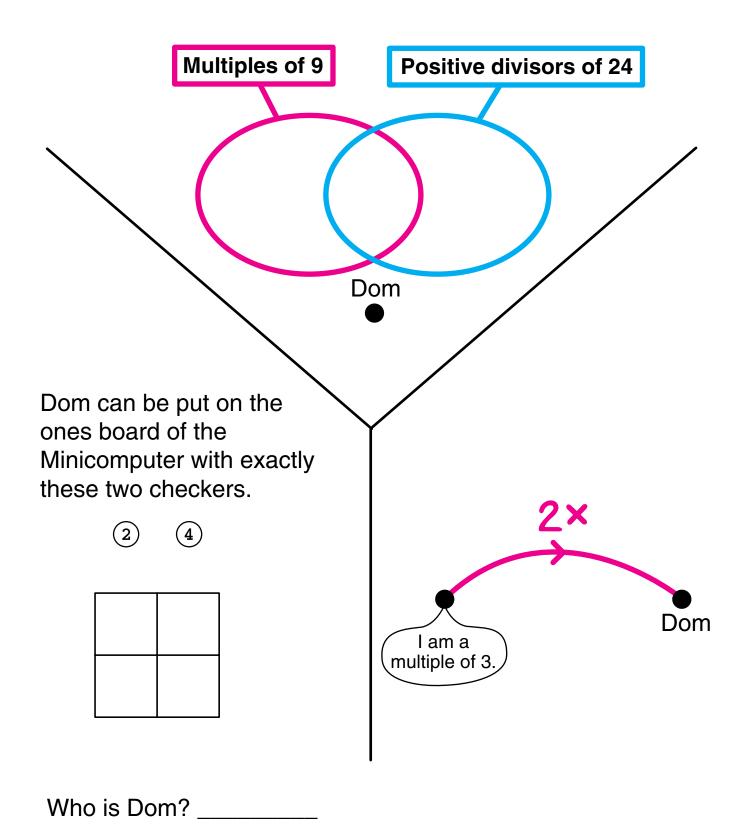
Less than 20
Greater than $\widehat{10}$
Multiples of 2
Multiples of 4
Positive divisors of 18
Positive divisors of 20

Label the strings.

Dom is a secret number.

Multiples of 9

Positive divisors of 24

Dom
●

Dom can be put on the ones board of the Minicomputer with exactly these two checkers.

②   ④

2×

I am a multiple of 3.

●———→●
Dom

Who is Dom? _____

Write a name for each number using exactly four 4s and no other digits. You may use the following symbols as often as you wish.

$$+ \quad - \quad (\ ) \quad \times \quad \div$$

The number 6 is done for you.

_____ = 0   _____ = 1

_____ = 2   _____ = 3

_____ = 4   _____ = 5

$\underline{((4+4)\div4)+4}$ = 6   _____ = 7

_____ = 8   _____ = 16

_____ = 48   _____ = 17

_____ = 60   _____ = 80