Study the following.

To multiply a number by 10, just add a zero.
To multiply a number by 100, just add two zeros.
To multiply a number by 1000, just add three zeros.

For any multiple of ten, just add the same number of zeros to the number.

Examples: $45 \times 10 = 450$ add one zero

$27 \times 100 = 2700$ add two zeros

$350 \times 1000 = 350{,}000$ add three zeros

$75 \times 1{,}000{,}000 = 75{,}000{,}000$

⇑ ⇑

6 zeros add 6 zeros

Fill in the blank.

How do you multiply something by 10 the quick way?

_____

Solve.

1. $3 \times 10 =$
2. 6×10
3. 23×10
4. 642×10

Fill in the blank.

How do you multiply something by 100 the quick way?

_____

Solve.

5. $100 \times 23 =$
6. 6×100
7. 8×100
8. 100×998

Fill in the blank.

How do you multiply any number by a multiple of 10?

_____

Solve.

9. $5 \times 1000 =$
10. $33 \times 10000 =$
11. $17 \times 100{,}000 =$

Study the following.

To divide by 10 cross out the last zero on the right.
To divide by 100 cross out the last two zeros on the right.
To divide by 1000 cross out the last three zeros on the right.
To divide by any multiple of 10 cross out the same number of zeros.

Examples: $250 \div 10 = 25$ Cross out 1 zero. $25\cancel{0}$

$400 \div 100 = 400$ Cross out 2 zeros. $4\cancel{00}$

$67000 \div 1000 = 67$ Cross out 3 zeros $67\cancel{000}$

When the numbers are written as fractions, cross out the same number of zeros in the numerator as in the denominator.

Examples: $\frac{3100}{100} = 31$ $\frac{46{,}000{,}000}{1{,}000{,}000} = 46$

Fill in the blank.

How do you divide a number by 10?

_____

Solve.

1. $350 \div 10 =$
2. $280 \div 10 =$
3. $400 \div 10 =$

Fill in the blank.

How do you divide a number by 100?

_____

Solve.

4. $3400 \div 100 =$
5. $1000 \div 100 =$
6. $79000 \div 100 =$

Fill in the blank.

How do you divide a number by a multiple of 10?

_____

Solve.

7. $54{,}000 \div 1000 =$
8. $30{,}000 \div 10{,}000 =$

9. $\frac{9000}{1000} =$

10. $\frac{45{,}000}{100} =$

11. $\frac{700{,}000}{100{,}000} =$

Solve the quick way.

1. $300 \times 10 =$
2. $6000 \div 100 =$
3. $45 \times 10{,}000 =$
4. $5600 \div 10 =$

5. $\frac{530{,}000{,}000}{100{,}000} =$

Study the following.

When multiplying by any numbers with zeros on the end, multiply the first part of each number, then count all the zeros on the ends of both numbers, and add that many zeros to the end.

Examples: $5 \times 300 =$ 5×3 plus two zeros $= 1500$

$300 \times 2000 =$ 3×2 plus five zeros $= 600{,}000$

$40 \times 50 = 4 \times 5$ $(4 \times 5 = 20)$ plus two zeros $= 2000$

Solve.

1. $3 \times 400 =$
2. $7 \times 9000 =$
3. $500 \times 4 =$
4. $40 \times 600 =$
5. $2000 \times 4000 =$
6. $50 \times 600 =$
7. $800 \times 500 =$

Study the following.

When dividing numbers, first cross out the same number of zeros on the right side. Then divide the remaining numbers, or reduce the fraction.

Examples: $\frac{600}{300} = \frac{6}{3} = 2$

$\frac{2000}{400} = \frac{20}{4} = 5$

$\frac{400}{600} = \frac{4}{6} = \frac{2}{3}$

Solve.

1. $\frac{400}{200} =$

2. $\frac{81000}{9000} =$

3. $\frac{80}{40} =$

4. $\frac{2500}{50} =$

5. $\frac{1000}{50} =$

6. $\frac{12000}{17000} =$

7. $\frac{6000}{2000} =$

8. $\frac{6000}{9000} =$

Review

1. $200 \times 40 =$
2. $500 \times 40 =$
3. $9000 \div 3000 =$
4. $1500 \div 500 =$
5. $8000 \times 300 =$
6. $2000 \div 500 =$
7. $9000 \times 2000 =$

Study the following.

Money Facts.

Fact: There are 4 quarters in one dollar (100 cents).

$$25¢ + 25¢ + 25¢ + 25¢ = 100¢$$

Related multiplication and division problems.

$$25 \times 4 = 100$$
$$100 \div 4 = 25$$
$$100 \div 25 = 4$$

Fact: There are 20 nickels in one dollar (100 cents).

$$5¢ + 5¢ + 5¢ + 5¢ + 5¢ + 5¢ + 5¢ + 5¢ + 5¢ + 5¢ +$$
$$5¢ + 5¢ + 5¢ + 5¢ + 5¢ + 5¢ + 5¢ + 5¢ + 5¢ + 5¢ = 100¢$$

Related multiplication and division problems.

$$20 \times 5 = 100$$
$$100 \div 20 = 5$$
$$100 \div 5 = 20$$

Solve the following without looking above.

1. $25 \times 4 =$
2. $20 \times 5 =$
3. $100 \div 4 =$
4. $100 \div 5 =$
5. $100 \div 25 =$
6. $100 \div 20 =$

Study the following.

Count by 25's out loud up to 500.

25, 50, 75, 100, 125, 150, 175, 200, 225,…

This can help you divide by 25.

Example: $200 \div 25 =$

Count 8 twenty-fives to get up to 200,
So the answer is 8.

Solve by counting twenty-fives.

1. $175 \div 25 =$
2. $250 \div 25 =$
3. $300 \div 25 =$
4. $150 \div 25 =$

Study the following.

There are 4 twenty-fives in each 100.

25 + 25 + 25 + 25

This can help you divide by 25.

Example: $200 \div 25 =$

There are 4 twenty fives in each of the 2 hundreds,
So there are $4 \times 2 = 8$ total. $200 \div 25 = 8$

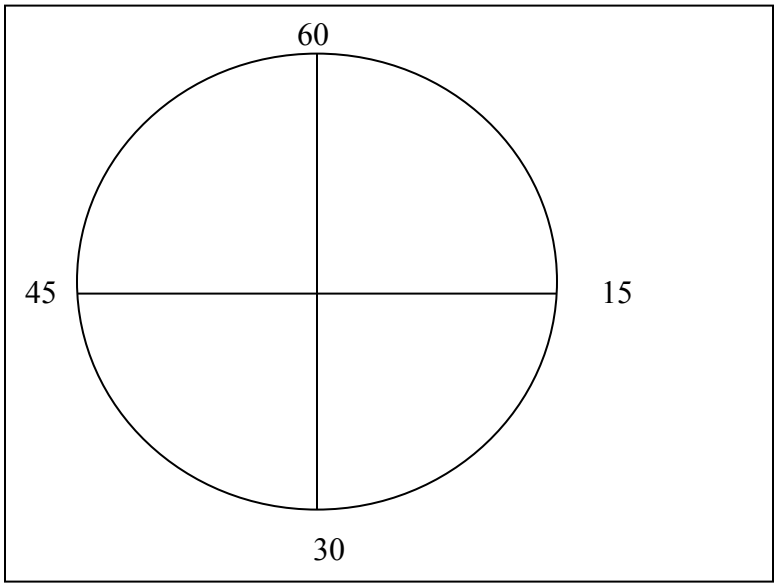
Solve.

1. $300 \div 25 =$ 2. $250 \div 25 =$ 3. $425 \div 25 =$

Study the following.

Time Facts.

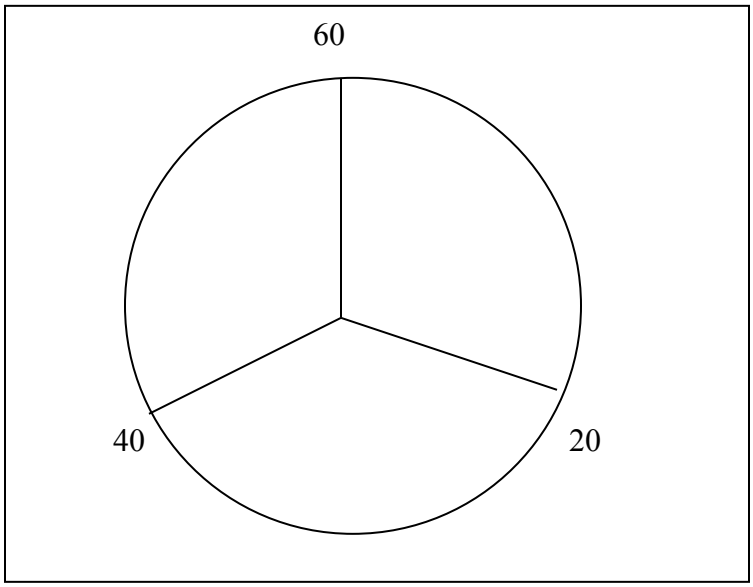
Facts: There are 60 minutes in one hour.
Each quarter of an hour is 15 minutes.



Related multiplication and division problems.

$4 \times 15 = 60$
$60 \div 4 = 15$
$60 \div 15 = 4$

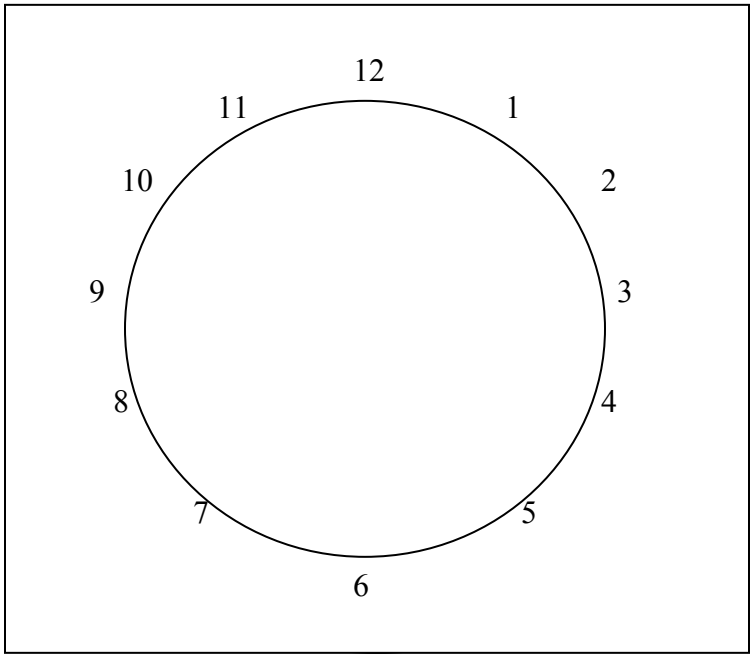
Facts: There are 60 minutes in one hour.
Each third of an hour is 20 minutes.



Related multiplication and division problems.

$3 \times 20 = 60$
$60 \div 3 = 20$
$60 \div 20 = 3$

Facts: There are 60 minutes in one hour.
Each number on the clock is 5 minutes.
There are 12 numbers on the clock.



Related multiplication and division problems.

$5 \times 12 = 60$
$60 \div 5 = 12$
$60 \div 12 = 5$

Solve without looking above.

1. $3 \times 20 =$
2. $5 \times 12 =$
3. $60 \div 4 =$
4. $60 \div 3 =$
5. $4 \times 15 =$
6. $60 \div 15 =$
7. $60 \div 20 =$
8. $60 \div 12 =$
9. $60 \div 5 =$