Mathematics Skill Booklet

KS4 (2)

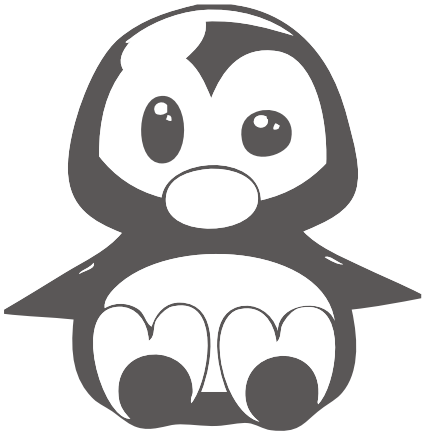
Calculate and fill in the boxes

2,815 x 7 = ,□□□	1,150 x 9 = ,□□□	
2,498 x 6 = ,□□□	3,090 x 9 = ,□□□	5,501 x 4 = ,□□□
4,500 x 4 = ,□□□	3,999 x 7 = ,□□□	3,400 x 9 = ,□□□
4,160 x 4 = ,□□□	3,498 x 4 = ,□□□	3,699 x 5 = ,□□□
6,300 x 8 = ,□□□	4,113 x 7 = ,□□□	3,004 x 6 = ,□□□

Complete the table

	Round of the nearest:		
Number	Ten	Hundred	Thousand
345			
1,245			
99			
9,987			
4,560			
749			
3,456			
301			
9			
999			
5,761			
4,098			
3,987			
51			
4,049			

Convert these mixed numbers into improper fractions.



$2\frac{1}{5} =$	$3\frac{1}{4} =$	$1\frac{1}{2} =$	
$5\frac{7}{7} =$	$4\frac{2}{5} =$	$2\frac{2}{6} =$	
$5\frac{2}{4} =$	$6\frac{1}{5} =$	$1\frac{3}{9} =$	$2\frac{3}{5} =$
$2\frac{1}{6} =$	$3\frac{1}{5} =$	$5\frac{3}{3} =$	$4\frac{2}{8} =$
$1\frac{2}{8} =$	$2\frac{2}{5} =$	$3\frac{2}{5} =$	$5\frac{2}{5} =$
$2\frac{1}{4} =$	$5\frac{2}{3} =$	$3\frac{2}{8} =$	$1\frac{2}{9} =$
$9\frac{2}{4} =$	$7\frac{2}{3} =$	$5\frac{1}{3} =$	$4\frac{2}{8} =$
$2\frac{2}{6} =$	$1\frac{2}{7} =$	$1\frac{1}{7} =$	$4\frac{2}{6} =$
$5\frac{2}{6} =$	$1\frac{2}{3} =$	$3\frac{1}{2} =$	$3\frac{4}{6} =$

Convert these improper fractions into mixed numbers.

$\frac{14}{5}$ = $\frac{13}{4}$ = $\frac{6}{5}$ =

$\frac{42}{7}$ = $\frac{22}{5}$ = $\frac{14}{6}$ =

$\frac{22}{4}$ = $\frac{31}{5}$ = $\frac{10}{8}$ = $\frac{14}{6}$ =

$\frac{15}{7}$ = $\frac{14}{4}$ = $\frac{28}{5}$ = $\frac{29}{7}$ =

$\frac{11}{8}$ = $\frac{14}{6}$ = $\frac{23}{7}$ = $\frac{12}{2}$ =

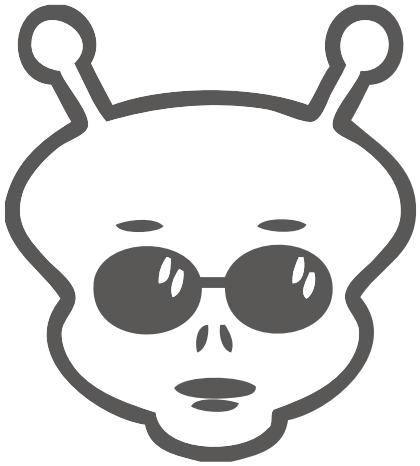
$\frac{5}{2}$ = $\frac{22}{4}$ = $\frac{19}{6}$ = $\frac{11}{9}$ =

$\frac{38}{4}$ = $\frac{16}{2}$ = $\frac{21}{4}$ = $\frac{18}{4}$ =

$\frac{10}{4}$ = $\frac{7}{5}$ = $\frac{8}{7}$ = $\frac{21}{5}$ =

$\frac{32}{6}$ = $\frac{5}{3}$ = $\frac{3}{2}$ = $\frac{22}{6}$ =

Convert these fractions into decimals



$\frac{1}{2}$ = $\frac{1}{10}$ = $\frac{1}{4}$ =

$\frac{1}{100}$ = $\frac{2}{20}$ = $\frac{2}{100}$ =

$\frac{10}{100}$ = $\frac{1}{5}$ = $\frac{50}{100}$ = $\frac{4}{10}$ =

$\frac{12}{100}$ = $\frac{3}{10}$ = $\frac{3}{4}$ = $\frac{7}{10}$ =

$\frac{3}{5}$ = $\frac{2}{4}$ = $\frac{37}{100}$ = $\frac{6}{10}$ =

$\frac{1}{50}$ = $\frac{1}{25}$ = $\frac{1}{20}$ = $\frac{9}{10}$ =

$\frac{2}{50}$ = $\frac{2}{25}$ = $\frac{10}{20}$ = $\frac{5}{25}$ =

$\frac{99}{100}$ = $\frac{4}{10}$ = $\frac{65}{100}$ = $\frac{9}{25}$ =

$\frac{2}{200}$ = $\frac{7}{50}$ = $\frac{13}{100}$ = $\frac{10}{10}$ =

Multiply

2.4 x 5.2 =	6.2 x 7.7 =	
5.5 x 2.8 =	7.1 x 3.7 =	
8.4 x 3.4 =	2.6 x 1.3 =	5.5 x 4.2 =
2.9 x 1.9 =	3 x 3.6 =	9.1 x 4.8 =
9.5 x 2.2 =	2.3 x 2.6 =	2 x 4.7 =
7.5 x 2.5 =	9.5 x 4.1 =	8.5 x 5.2 =
9.2 x 8.2 =	7.2 x 2.4 =	4.1 x 2.5 =
5.7 x 1.5 =	3.8 x 1.4 =	7.5 x 2.9 =
0.7 x 0.5 =	5.1 x 1.5 =	2.8 x 2.3 =

Dividing decimal numbers

Divide.

4.8 ÷ 8 =	4.5 ÷ 3 =	
2.45 ÷ 7 =	6.4 ÷ 4 =	
6.8 ÷ 2 =	3.08 ÷ 2 =	2.7 ÷ 3 =
4.62 ÷ 3 =	4.95 ÷ 9 =	6.3 ÷ 3 =
4.05 ÷ 3 =	9.6 ÷ 3 =	4.6 ÷ 4 =
0.9 ÷ 3 =	7.5 ÷ 6 =	6 ÷ 5 =
9.5 ÷ 2 =	0.9 ÷ 3 =	7.8 ÷ 6 =
2.4 ÷ 4 =	6.8 ÷ 4 =	2.4 ÷ 3 =
4.25 ÷ 5 =	4.8 ÷ 8 =	9 ÷ 4 =

Calculate these fractions of sets (round off to the nearest hundredth).

$\frac{1}{2}$ of 135 =

$\frac{1}{3}$ of 80 =

$\frac{1}{3}$ of 50 =

$\frac{1}{4}$ of 30 =

$\frac{1}{2}$ of 105 =

$\frac{1}{3}$ of 170 =

$\frac{1}{2}$ of 93 =

$\frac{1}{2}$ of 191 =

$\frac{1}{2}$ of 176 =

$\frac{1}{5}$ of 153 =

$\frac{1}{3}$ of 95 =

$\frac{1}{3}$ of 190 =

$\frac{1}{6}$ of 110 =

$\frac{1}{10}$ of 155 =

$\frac{1}{2}$ of 165 =

$\frac{1}{4}$ of 225 =

$\frac{1}{8}$ of 140 =

$\frac{1}{3}$ of 125 =

$\frac{1}{4}$ of 174 =

$\frac{1}{9}$ of 70 =

$\frac{1}{4}$ of 124 =

$\frac{1}{6}$ of 60 =

$\frac{1}{8}$ of 180 =

$\frac{1}{9}$ of 99 =

$\frac{1}{7}$ of 147 =

$\frac{1}{4}$ of 244 =

$\frac{1}{6}$ of 104 =

$\frac{1}{9}$ of 50 =

$\frac{1}{6}$ of 150 =

$\frac{1}{5}$ of 110 =

$\frac{1}{8}$ of 190 =

$\frac{1}{3}$ of 200 =

$\frac{1}{7}$ of 200 =

Calculate and show your answers in the lowest terms

$2\frac{1}{2} + 1\frac{3}{5} =$

$3\frac{3}{4} + 2\frac{1}{7} =$

$1\frac{3}{4} + 1\frac{4}{6} =$

$4\frac{4}{5} + 1\frac{1}{3} =$

$5\frac{3}{7} + 1\frac{1}{6} =$

$1\frac{1}{8} + 1\frac{2}{9} =$

$3\frac{1}{8} + 1\frac{2}{6} =$

$5\frac{1}{9} + 1\frac{1}{6} =$

$3\frac{2}{4} + 2\frac{6}{9} =$

$3\frac{4}{5} + 2\frac{1}{6} =$

$3\frac{1}{4} + 1\frac{5}{6} =$

$2\frac{1}{4} + 6\frac{5}{6} =$

$4\frac{2}{4} + 1\frac{1}{6} =$

$1\frac{3}{4} + 4\frac{2}{6} =$

$7\frac{1}{4} + 1\frac{6}{7} =$

$4\frac{2}{3} + 1\frac{1}{2} =$

$4\frac{1}{3} + 4\frac{5}{6} =$

$2\frac{7}{8} + 4\frac{1}{6} =$

$2\frac{1}{3} + 3\frac{3}{4} =$

$3\frac{2}{4} + 2\frac{5}{6} =$

$3\frac{1}{5} + 2\frac{1}{2} =$

$2\frac{1}{2} + 2\frac{4}{6} =$

$1\frac{1}{8} + 1\frac{8}{9} =$

$5\frac{3}{4} + 1\frac{2}{6} =$

Divide and express your answers in the lowest possible terms

$\frac{1}{3} \div 4 =$ $\frac{4}{5} \div 3 =$

$\frac{2}{4} \div 5 =$ $\frac{1}{3} \div 4 =$

$\frac{3}{3} \div 4 =$ $\frac{2}{7} \div 4 =$ $\frac{1}{8} \div 7 =$

$\frac{1}{5} \div 5 =$ $\frac{2}{6} \div 8 =$ $\frac{5}{6} \div 5 =$

$\frac{1}{2} \div 3 =$ $\frac{2}{7} \div 5 =$ $\frac{1}{6} \div 8 =$

$\frac{1}{5} \div 3 =$ $\frac{1}{5} \div 9 =$ $\frac{4}{9} \div 3 =$

$\frac{3}{8} \div 9 =$ $\frac{3}{2} \div 4 =$ $\frac{4}{5} \div 2 =$

$\frac{1}{3} \div 6 =$ $\frac{4}{5} \div 3 =$ $\frac{3}{4} \div 4 =$

$\frac{2}{7} \div 2 =$ $\frac{1}{9} \div 8 =$ $\frac{5}{4} \div 4 =$

Multiply and express your answers in mixed numbers

$\frac{1}{3} \times 4 =$ $\frac{2}{5} \times 8 =$

$\frac{2}{4} \times 5 =$ $\frac{2}{7} \times 9 =$

$\frac{1}{7} \times 9 =$ $\frac{1}{3} \times 7 =$ $\frac{1}{2} \times 9 =$

$\frac{2}{5} \times 4 =$ $\frac{1}{4} \times 5 =$ $\frac{1}{3} \times 8 =$

$\frac{4}{3} \times 4 =$ $\frac{1}{2} \times 5 =$ $\frac{1}{3} \times 5 =$

$\frac{2}{3} \times 11 =$ $\frac{1}{6} \times 8 =$ $\frac{5}{3} \times 4 =$

$\frac{1}{5} \times 9 =$ $\frac{1}{7} \times 9 =$ $\frac{3}{8} \times 4 =$

$\frac{2}{7} \times 4 =$ $\frac{1}{6} \times 9 =$ $\frac{1}{5} \times 24 =$

$\frac{1}{4} \times 39 =$ $\frac{6}{7} \times 4 =$ $\frac{4}{5} \times 4 =$

Convert the following fractions into percents (round off to the nearest hundredth)

$\frac{1}{3}$ = _____ %

$\frac{1}{6}$ = _____ %

$\frac{2}{3}$ = _____ %

$\frac{3}{7}$ = _____ %

$\frac{1}{11}$ = _____ %

$\frac{5}{9}$ = _____ %

$\frac{6}{8}$ = _____ %

$\frac{6}{7}$ = _____ %

$\frac{9}{9}$ = _____ %

$\frac{9}{3}$ = _____ %

$\frac{1}{25}$ = _____ %

$\frac{4}{6}$ = _____ %

$\frac{2}{7}$ = _____ %

$\frac{1}{9}$ = _____ %

$\frac{1}{8}$ = _____ %

$\frac{2}{13}$ = _____ %

$\frac{1}{3}$ = _____ %

$\frac{1}{2}$ = _____ %

$\frac{4}{5}$ = _____ %

$\frac{8}{7}$ = _____ %

$\frac{8}{2}$ = _____ %

$\frac{1}{50}$ = _____ %

$\frac{3}{14}$ = _____ %

$\frac{1}{7}$ = _____ %

$\frac{4}{3}$ = _____ %

$\frac{2}{6}$ = _____ %

$\frac{5}{8}$ = _____ %

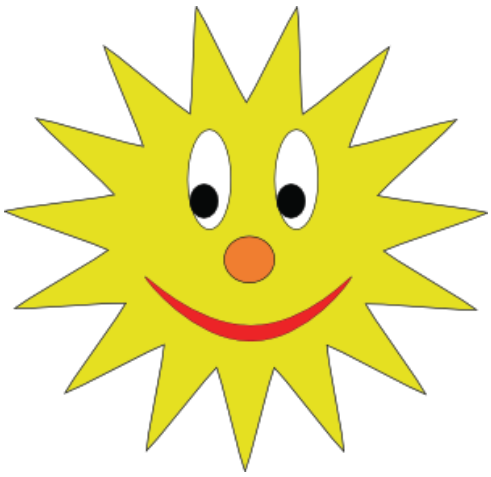
$\frac{3}{17}$ = _____ %

$\frac{1}{75}$ = _____ %

Calculate the following percentages

25% of 150 =

40% of 180 =



15% of 170 =

10% of 160 =

35% of 150 =

60% of 145 =

42% of 200 =

50% of 198 =

61% of 450 =

48% of 325 =

90% of 400 =

72% of 250 =

65% of 190 =

75% of 150 =

60% of 153 =

80% of 110 =

95% of 160 =

15% of 500 =

15% of 320 =

75% of 170 =

18% of 150 =

30% of 100 =

37% of 150 =

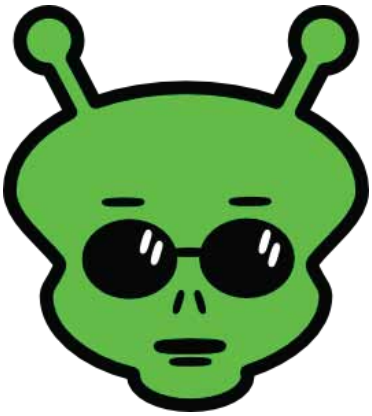
25% of 270 =

92% of 250 =

49% of 250 =

33% of 200 =

Divide and express your answers in mixed numbers if possible



$\frac{1}{4} \div \frac{1}{3} =$

$\frac{3}{4} \div \frac{5}{6} =$

$\frac{2}{4} \div \frac{1}{3} =$

$\frac{2}{11} \div \frac{1}{8} =$

$\frac{3}{11} \div \frac{1}{3} =$

$\frac{1}{5} \div \frac{1}{7} =$

$\frac{2}{4} \div \frac{1}{9} =$

$\frac{1}{3} \div \frac{2}{7} =$

$\frac{1}{4} \div \frac{1}{9} =$

$\frac{1}{2} \div \frac{1}{6} =$

$\frac{2}{4} \div \frac{6}{3} =$

$\frac{1}{2} \div \frac{2}{8} =$

$\frac{1}{4} \div \frac{1}{10} =$

$\frac{2}{6} \div \frac{1}{9} =$

$\frac{1}{3} \div \frac{2}{9} =$

$\frac{2}{3} \div \frac{1}{9} =$

$\frac{1}{4} \div \frac{8}{3} =$

$\frac{1}{3} \div \frac{4}{3} =$

$\frac{3}{7} \div \frac{1}{6} =$

$\frac{3}{4} \div \frac{3}{4} =$

$\frac{4}{6} \div \frac{1}{6} =$

$\frac{3}{2} \div \frac{1}{4} =$

$\frac{1}{4} \div \frac{1}{8} =$

$\frac{1}{2} \div \frac{1}{5} =$

$\frac{2}{9} \div \frac{1}{4} =$

$\frac{6}{8} \div \frac{7}{6} =$

$\frac{1}{4} \div \frac{1}{9} =$

$\frac{3}{3} \div \frac{1}{9} =$

$\frac{3}{2} \div \frac{1}{4} =$

$\frac{1}{8} \div \frac{1}{9} =$

Dividing Mixed Numbers

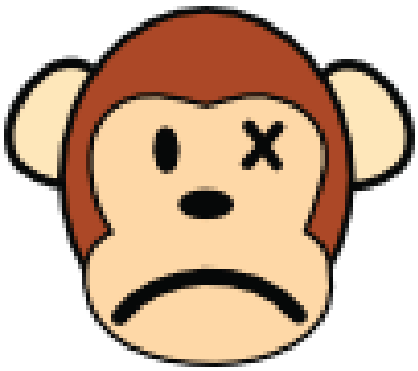
Divide and express your answers in mixed numbers if possible

$2\frac{1}{2} \div 1\frac{1}{3} =$	$4\frac{1}{3} \div 2\frac{1}{7} =$	
$1\frac{3}{4} \div 1\frac{1}{3} =$	$1\frac{1}{6} \div 3\frac{1}{2} =$	
$2\frac{1}{3} \div 1\frac{4}{5} =$	$1\frac{3}{8} \div 2\frac{1}{4} =$	
$3\frac{1}{3} \div 1\frac{4}{5} =$	$2\frac{1}{4} \div 1\frac{1}{5} =$	$2\frac{1}{7} \div 7\frac{1}{2} =$
$2\frac{1}{7} \div 2\frac{3}{4} =$	$1\frac{3}{5} \div 1\frac{3}{8} =$	$7\frac{1}{2} \div 3\frac{3}{4} =$
$1\frac{1}{5} \div 1\frac{4}{6} =$	$1\frac{1}{2} \div 1\frac{1}{9} =$	$1\frac{1}{6} \div 1\frac{8}{9} =$
$4\frac{1}{4} \div 3\frac{1}{2} =$	$4\frac{1}{5} \div 1\frac{3}{4} =$	$5\frac{1}{2} \div 1\frac{1}{3} =$
$1\frac{3}{4} \div 2\frac{1}{2} =$	$8\frac{1}{2} \div 1\frac{2}{3} =$	$4\frac{1}{8} \div 2\frac{1}{3} =$
$1\frac{5}{6} \div 1\frac{1}{3} =$	$6\frac{1}{2} \div 1\frac{1}{8} =$	$3\frac{1}{3} \div 2\frac{1}{7} =$
$7\frac{1}{2} \div 6\frac{1}{2} =$	$4\frac{1}{3} \div 2\frac{1}{6} =$	$4\frac{1}{2} \div 9\frac{1}{4} =$

Find the greatest common factors of the following sets of numbers.

12 and 20 = _____

13 and 65 = _____



35 and 18 = _____

12 and 21 = _____

24 and 96 = _____

15 and 75 = _____

12 and 56 = _____

14 and 77 = _____

11 and 78 = _____

12 and 28 = _____

17 and 68 = _____

18 and 28 = _____

19 and 95 = _____

12 and 23 = _____

14 and 84 = _____

12 and 66 = _____

19 and 48 = _____

17 and 68 = _____

14 and 87 = _____

12 and 26 = _____

30 and 45 = _____

21 and 33 = _____

15 and 95 = _____

15 and 90 = _____

16 and 64 = _____

12 and 30 = _____

24 and 30 = _____

Find the lowest common multiple of the following sets of numbers.

14 and 20 = _____ 13 and 65 = _____

24 and 18 = _____ 14 and 21 = _____

12 and 96 = _____ 15 and 75 = _____

12 and 56 = _____ 17 and 77 = _____ 12 and 78 = _____

14 and 28 = _____ 15 and 72 = _____ 7 and 28 = _____

19 and 95 = _____ 12 and 30 = _____ 14 and 84 = _____

12 and 64 = _____ 18 and 48 = _____ 17 and 68 = _____

17 and 68 = _____ 12 and 26 = _____ 30 and 45 = _____

21 and 33 = _____ 15 and 95 = _____ 15 and 80 = _____

16 and 64 = _____ 15 and 30 = _____ 24 and 30 = _____

Calculate the percents of each number (round off to nearest tenth)

14 is 12 % of _____

25 is 3 % of _____

35 is 15 % of _____

20 is 17 % of _____

25 is 22 % of _____

18 is 28 % of _____

90 is 15 % of _____

15 is 35 % of _____

16 is 64 % of _____

21 is 20 % of _____

13 is 60 % of _____

45 is 12 % of _____

36 is 40 % of _____

88 is 15 % of _____

82 is 25 % of _____

75 is 25 % of _____

67 is 23 % of _____

22 is 30 % of _____

72 is 12 % of _____

98 is 50 % of _____

12 is 16 % of _____

32 is 34 % of _____

18 is 80 % of _____

24 is 12 % of _____

26 is 45 % of _____

Multiplying fractions by decimals

Calculate and round your answers off to the nearest tenth

$\frac{1}{4} \times 2.4 =$	$\frac{2}{9} \times 3.5 =$	
$\frac{2}{7} \times 5.8 =$	$\frac{6}{7} \times 8.3 =$	
$\frac{4}{7} \times 3.3 =$	$\frac{1}{7} \times 9.5 =$	$\frac{1}{8} \times 9.1 =$
$\frac{2}{9} \times 4.4 =$	$\frac{1}{6} \times 7.1 =$	$\frac{2}{3} \times 8.4 =$
$\frac{8}{3} \times 4.9 =$	$\frac{1}{7} \times 8.5 =$	$\frac{1}{9} \times 5.7 =$
$\frac{2}{9} \times 15.3 =$	$\frac{3}{6} \times 7.2 =$	$\frac{9}{7} \times 4.3 =$
$\frac{3}{5} \times 7.9 =$	$\frac{4}{7} \times 3.2 =$	$\frac{7}{8} \times 8.3 =$
$\frac{2}{9} \times 4.9 =$	$\frac{1}{7} \times 9.2 =$	$\frac{2}{8} \times 24.2 =$
$\frac{3}{4} \times 25.4 =$	$\frac{3}{7} \times 8.2 =$	$\frac{4}{3} \times 3.7 =$

Are the following numbers divisible by 4, 6, 7 and 9 (no remainders or decimals)? Complete the tables with yes or no.

385	
By 4	
By 6	
By 7	
By 9	

284	
By 4	
By 6	
By 7	
By 9	

3,424	
By 4	
By 6	
By 7	
By 9	

999	
By 4	
By 6	
By 7	
By 9	

440	
By 4	
By 6	
By 7	
By 9	

738	
By 4	
By 6	
By 7	
By 9	

256	
By 4	
By 6	
By 7	
By 9	

642	
By 4	
By 6	
By 7	
By 9	

264	
By 4	
By 6	
By 7	
By 9	

450	
By 4	
By 6	
By 7	
By 9	

9,448	
By 4	
By 6	
By 7	
By 9	

Between which 2 whole numbers are the following square roots?

$\sqrt{110}$ is between ___ and ___

$\sqrt{150}$ is between ___ and ___

$\sqrt{40}$ is between ___ and ___

$\sqrt{10}$ is between ___ and ___

$\sqrt{200}$ is between ___ and ___

$\sqrt{550}$ is between ___ and ___

$\sqrt{70}$ is between ___ and ___

$\sqrt{30}$ is between ___ and ___

$\sqrt{230}$ is between ___ and ___

$\sqrt{270}$ is between ___ and ___

$\sqrt{50}$ is between ___ and ___

$\sqrt{500}$ is between ___ and ___

$\sqrt{122}$ is between ___ and ___

$\sqrt{85}$ is between ___ and ___

$\sqrt{60}$ is between ___ and ___

$\sqrt{190}$ is between ___ and ___

$\sqrt{300}$ is between ___ and ___

$\sqrt{424}$ is between ___ and ___

Prime factorize of the following numbers.

64 = _____

210 = _____

250 = _____

375 = _____

125 = _____

250 = _____

350 = _____

98 = _____

295 = _____

140 = _____

100 = _____

175 = _____

200 = _____

525 = _____

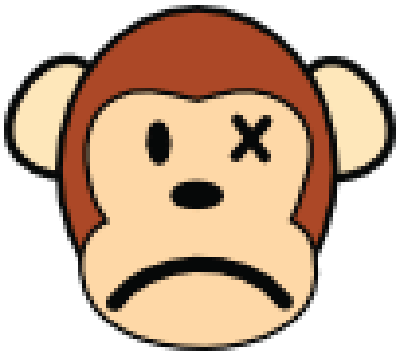
364 = _____

230 = _____

88 = _____

110 = _____

Calculate



-13 x 5 x -11 =

25 + -3 x -20 =

15 + 8 x -20 =

-25 x -3 x -11 =

-34 x -3 + -62 =

-14 x -3 x 8 =

-11 x 4 - -33 =

10 - 4 x 12 =

-22 x -3 - -23 =

-10 + 4 x -10 =

-11 - 8 x -12 =

45 + 8 x - 5 =

-18 x 2 x -22 =

-35 x 3 + -12 =

-15 + 3 - -19 =

-17 x 2 x -15 =

22 x 2 + -12 =

-20 + 4 + -22 =

-12 x 3 x -15 =

25 + -3 x -14 =

-15 x 2 x -11 =

-25 x -2 + 99 =