Trial and Improvement (to find area)

This rectangle has area 40cm ^{2}

What are some possible dimensions?

4x10
8x5
20x2
1x40
16x 2.5
32x1.25
0.5x 80
0.25 x 160

The area of this rectangle
42cm ^{2}

Find some possible dimensions...where both numbers are whole numbers.

This rectangle has area 132cm ^{2}

Find some possible dimensions...where both numbers are whole numbers.

Trial and Improvement (to do hard sums)

Use your calculator to work out the missing digits:

5_ x 89 = 4984

6_ x 35 = 22_5

_2 x 65 = 4_30

Showing your working!

62x _4 = 45_8

8_ x 43 = 3_26

Showing all your working, work out:

1. 3_ x 62 = 22_2

2. _ 4 x 71 = 59_4

3. 59 x _1 = 12_9

36x62=2232

84x71=5964

59x21= 1239

goto starters and square nos

squares and roots worksheets

Trial and Improvement

Using a systematic method solve the following problems:

1265

23 x 5_ = 12_8

23 x 56 = 1288

23 x 56= 1288

_2 x 69 = 289_

42 x 69 = 3588 tb

42 x 69 = 2898 ✓

6_ x 28 =18_6

65 x 28 = 1820 ts

66 x 28 = 1848 ts

67 x 28 = 1876 ✓

_7 x 36 = 169_

67 x 28 =1876

8_3 x 47 = 4056_

47 x 36 = 1692

863 x 47 = 40561

Trial and Improvement

2.5 x 5.9=13._7

2·5 x 5·9 = 14·75 ✗
2·3 x 5·9 = 13·57 ✓

[redacted]

2.3 x 5.9=13.57

9.2 x _.9 = 63.4_

9.2 x 6.9 = 63.48

6.4 x 2._ =17.9_

[redacted]

[redacted]

6.4 x 2.8 =17.92

9.7 x _.6 = 34._2

[redacted]

8.3 x 1.4_ = 12.20_

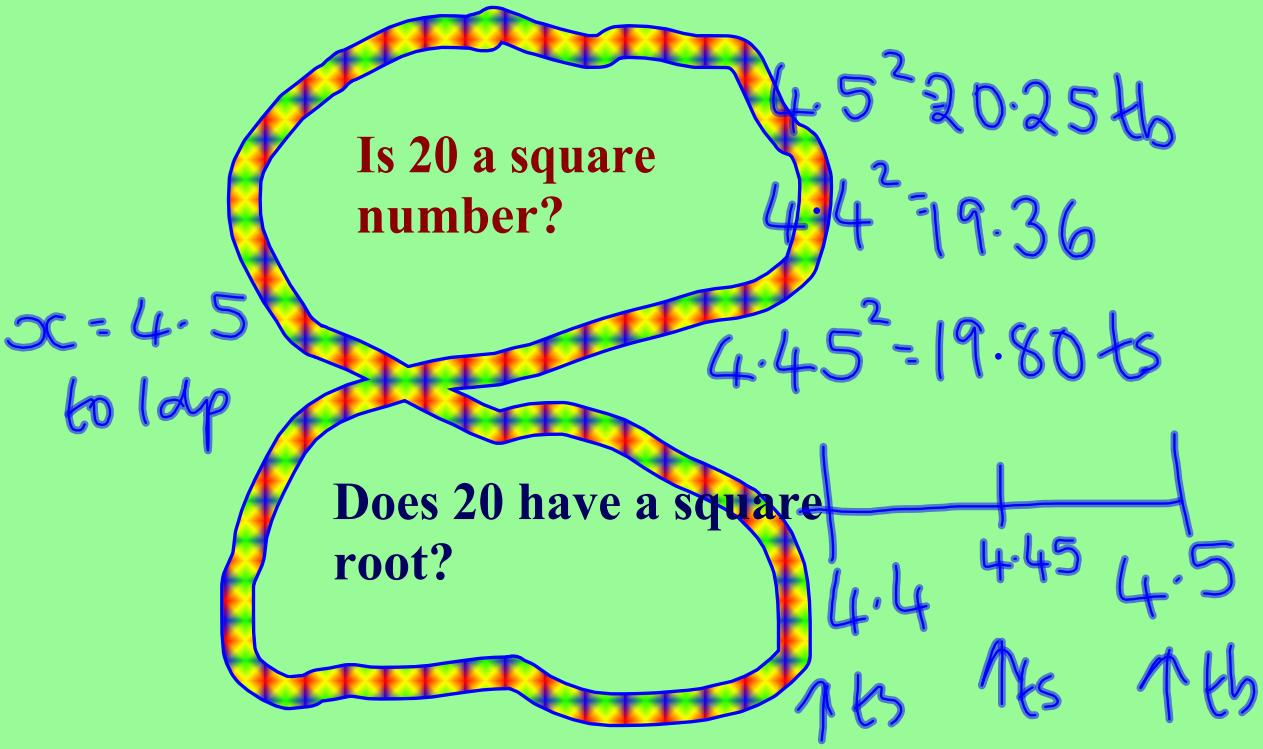
[redacted]

8.7_ x 3.1 = 27.21_

[redacted]

Use trial and improvement to solve these Fibonacci strips

3	5	8	13	21		
7	8	15	23	38		
2	3	5	8	13		
8	2	10	12	22		
10	5	15	20	35		
4	5	9	14	23	37	60
2	5	7	12	19	31	50
7	1	8	9	17	26	43
9	10	19	29	48	77	125
12						180



What do you know about the square root of 20?

Is 324 a square number?

Is 260 a square number?

Using your calculator find out if these numbers have a square root that is a whole number.

187

$15^2 = 225$ tb

$13^2 = 169$ ts

$14^2 = 196$ tb

$13.5^2 = 182.25$ ts

$13.7^2 = 187.69$ tb

$13.6^2 = 184.96$ ts

$13.65^2 = 186.3$ ts

ts

13.65

13.6 13.7

tb

$x = 13.7$ to 1dp

361

1690

1296

9801

text book page 301 C3 onwards

game

Find two numbers that differ by 1 and have a product of ....

1) 6 = 2x3

2) 56 = 7x8

3) 110 = 10x11

4) 182 = 13x14

5) 272 = 16x17

6) 462 multiply = 21x22

7) 1190 = 34x35

8) 10100 = 101x100

9) 3192 = 56x57

10) 3540 = 59x60

1) 2 x 3=6
2) 6 x 7=56
3) 10 x11=110
4) 13 x14= 182
5) 16 x 17 = 272
6) 21x 22= 462
7) 34 x 35 = 1190
8) 100x 101=10100
9) 56 x 57= 3192
10) 59x 60 = 3540

page 302 D1-D7

The area of this shape is 552cm^2.
The length is one cm longer than the width.
Find the length and width.

552

length	width	area	too big /small
x+1	x	x(x+1)	
23	22	22x23	506 ts
24	23	23x24	552 ✓

The area of this shape is 2970cm^2.
The length is one cm longer than the width.
Find the length and width.

length	width	area	too big /small

The area of this shape is 2679cm^2.
The length is 10cm longer than the width.
Find the length and width.

length	width	area	too big /small

The area of this shape is 552cm^2.
The length is one cm longer than the width.
Find the length and width.

length	width	area	too big /small

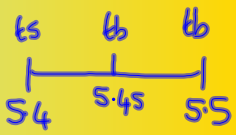
page 302 E1-E5

Setting up a table

Trial and improvement

Find the solution to the equation x(x+2) = 40 to 1decimal place.

x	x(x+2)	40
2	2×4 = 8	ts
6	6×8 = 48	tb
5	5×7 = 35	ts
5.5	5.5×7.5 = 41.25	tb
5.4	5.4×7.4 = 39.96	ts
5.45	5.45×7.45 = 40.60	ts



x = 5.4 to 1dp

By using trial and improvement find the solution to $x^3 = 30$ to 1 decimal place.

x	x^3	30
2	8	ts
3	27	ts
4	64	tb
3.5	42.87	tb
3.2	32.768	tb
3.1	29.791	ts
3.15	31.258	tb

x = 3.1 to 1dp

By using trial and improvement find the solution to $x^3 + x = 40$ to 1 dp.

x = 3.4

Solve these equations by trial and improvement to 1 dp.

x

x

x 0

x	x²+x	16
5	20	tb
4	12	ts
4.5	15.75	ts
4.7	17.39	tb
4.6	16.56	tb
4.55	16.152	tb

x=4.5

x	x(x-10)	100
15	75	ts
17	119	tb
16	96	ts
16.5	107.25	tb
16.3	102.69	tb
16.2	100.44	tb
16.1	98.21	ts
16.15	99.32	ts

x=16.2 to 1 dp

Model answer

Attachments

fibonnaci strips.xls