Name $\qquad$

## Master 1.31a Practice Sample Answers

## Extra Practice 1 - Master 1.24

## Lesson 1.1

1. a) 49 square units
b) 121 square units
2. 


$16=4 \times 4$.
A square with area 16 square units has side length 4 units.
3. a) Not a square. The rectangles with area

14 square units are:

b) Not a square. The rectangles with area 60 square units are:


## Extra Practice 2 - Master 1.25

## Lesson 1.2

1. a) 36
b) 121
c) 25
2. a) 7
b) 8
c) 14
3. a) i) $70: 1,2,5,7,10,14,35,70$

Not a square since it has an even number of factors
ii) 144: $1,2,3,4,6,8,9,12,16,18,24,36,48$, 72, 144
This is a square since it has an odd number of factors.
iii) 180: $1,2,3,4,5,6,9,10,12,15,18,20,30$, $36,45,60,90,180$
Not a square since it has an even number of factors
b) ii) 12
4. a) Not a square since it has an even number of factors
b) This is a square since it has an odd number of factors. The square root of 196 is 14 .
c) This is a square since it has an odd number of factors. The square root of 441 is 21 .
5. 576
6. a) 12
b) 15
c) 37
7. a) 9
b) 121
c) 841
c) A square. I can draw a square with side length

6 units whose area is 36 square units.

4. a) 4 and 9
b) 25 and 36
c) 49 and 64
d) 81 and 100
5. 49
6. a) 15 m by 15 m
b) 60 m
c) 3 strings

Name $\qquad$

## Master 1.31b Extra Practice Sample Answers continued

## Extra Practice 3 - Master 1.26

## Lesson 1.3

1. a) 25
b) 14
c) 64
d) 15
e) 1
f) 7
g) 81
h) 100
2. a) 3 cm
b) $\sqrt{56} \mathrm{~m}$
c) 9 cm
d) 4 m
e) $\sqrt{42} \mathrm{~cm}$
f) $\sqrt{72} \mathrm{~m}$

The side lengths in parts $\mathrm{a}, \mathrm{c}$, and d are whole numbers.
3. a) 25 square units
iii) 110 is about halfway between 100 and 121 , so $\sqrt{110}$ is about halfway between $\sqrt{100}=10$ and $\sqrt{121}=11$.
iv) 41 is about halfway between 36 and 49, so $\sqrt{41}$ is about halfway between $\sqrt{36}=6$ and $\sqrt{49}=7$.
b) i) 3.87
ii) 8.49
iii) 10.49
b) 40 square units
c) 41 square units
4. a) 34 square units; $\sqrt{34}$ units
b) 65 square units; $\sqrt{65}$ units
c) 20 square units; $\sqrt{20}$ units
d) 61 square units; $\sqrt{61}$ units

## Extra Practice 4 - Master 1.27 Lesson 1.4

1. a) $\sqrt{27}: 27$ is a bit more than 25 and $\sqrt{25}=5$
$\sqrt{49}: \sqrt{49}=7$
$\sqrt{62}: 62$ is a bit less than 64 and $\sqrt{64}=8$
b) $\sqrt{35}: 35$ is a bit less than 36 and $\sqrt{36}=6$, so $\sqrt{35}$ is about 5.9.
$\sqrt{56}: 56$ is a about halfway between 49 and 64 .
$\sqrt{49}=7$ and $\sqrt{64}=8$, so $\sqrt{56}$ is about 7.5
2. a) i) 15 is between 9 and 16 , so $\sqrt{15}$ is between $\sqrt{9}=3$ and $\sqrt{16}=4$, but closer to 4 .
ii) 72 is about halfway between 64 and 81 , so $\sqrt{72}$ is about halfway between $\sqrt{64}=8$ and $\sqrt{81}=9$.
iv) 6.40
3. a) False; 19 is between 16 and 25 , so $\sqrt{19}$ is between $\sqrt{16}=4$ and $\sqrt{25}=5$.
b) True; $10 \times 10=100$, which is less than 101
c) True; $\sqrt{5+10}=\sqrt{15}$, which is a little less than $\sqrt{16}=4 . \sqrt{5}$ is greater than $\sqrt{4}=2$ and $\sqrt{10}$ is greater than $\sqrt{9}=3$.
So, $\sqrt{5}+\sqrt{10}$ is greater than $2+3=5$.
d) True; $\sqrt{3}$ is less than $\sqrt{4}=2$ and $\sqrt{8}$ is less than $\sqrt{9}=3$. So, $\sqrt{3} \times \sqrt{8}$ is less than $2 \times 3=6 . \sqrt{36}=6$
e) False; $\sqrt{12}$ is greater than $\sqrt{9}=3$ and $\sqrt{10}$ is greater than $\sqrt{9}=3$. So, $\sqrt{12}+\sqrt{10}$ is greater than $3+3=6$. $\sqrt{32}$ is less than $\sqrt{36}=6$, so $\sqrt{32}-\sqrt{10}$ is less than $6-3=3$.
f) False; $\sqrt{1}=1$, and $\sqrt{1}+\sqrt{1}+\sqrt{1}=3$. $\sqrt{3}$ is less than $\sqrt{4}=2$.
So, $\sqrt{1}+\sqrt{1}+\sqrt{1}$ is greater than $\sqrt{3}$.
4. About 57.01 cm by 57.01 cm
5. About 155.6 m by 155.6 m

No. The perimeter of the field is:
$4 \times 155.6 \mathrm{~m}=622.4 \mathrm{~m}$

