# **Practice Sample Answers**

## Extra Practice 1 – Master 1.24 Lesson 1.1

1. a) 49 square units

Master 1.31a

**b**) 121 square units



 $16 = 4 \times 4.$ 

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:



c) A square. I can draw a square with side length 6 units whose area is 36 square units.



- 6. a) 15 m by 15 m
  - **b**) 60 m
  - c) 3 strings

## 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. 57	6

6.	<b>a</b> ) 12	b)	15	c)	37
7.	<b>a</b> ) 9	b)	121	c)	841

m

# 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)	$\sqrt{56}$	m	c)	9 cm	
	d)	4 m	e)	$\sqrt{42}$	cm	f)	$\sqrt{72}$	
	The side lengths in parts a, c, and d are whole numbers.							

- 3. a) 25 square units
  - **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  $\sqrt{81} = 9$ .

- 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
  - **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
- About 155.6 m by 155.6 m No. The perimeter of the field is: 4 × 155.6 m = 622.4 m