

UNIT 17 *Units of Measure***Extra Exercises 17.1**

1. Which of the following would be the best estimate of the height of a child:
 - A 4.1 m
 - B 140 cm
 - C 300 mm
 - D 1800 mm ?

2. Which of the following would be the best estimate of the capacity of a mug:
 - A 2 litres
 - B 0.2 litres
 - C 0.02 litres
 - D 20 cm^3 ?

3. Estimate the length and width of your bed, to the nearest metre.

4.
 - (a) Estimate the length of your foot, in cm.
 - (b) Measure your foot and compare the result with your estimate.

5.
 - (a) Estimate the mass of a mug.
 - (b) Weigh the mug and compare the result with your estimate.

6.
 - (a) Estimate the area of your bedroom floor.
 - (b) Measure your bedroom and calculate the area of the floor. How good was your estimate?

UNIT 17 *Units of Measure***Extra Exercises 17.2**

1. Change the following lengths to cm:

- | | | |
|-----------|------------|------------|
| (a) 80 mm | (b) 750 mm | (c) 8 mm |
| (d) 5 m | (e) 3.6 m | (f) 1.27 m |

2. Change the following lengths to m:

- | | | |
|-------------|------------|-------------|
| (a) 800 cm | (b) 76 cm | (c) 2500 cm |
| (d) 1600 mm | (e) 900 mm | (f) 20 mm |

3. Change the following lengths to mm:

- | | | |
|-----------|-----------|------------|
| (a) 8 cm | (b) 28 cm | (c) 3.6 cm |
| (d) 4.2 m | (e) 18 m | (f) 0.75 m |

4. Change the following masses to kg:

- | | | |
|----------------|----------------|----------------|
| (a) 3200 grams | (b) 800 grams | (c) 50 grams |
| (d) 2 tonnes | (w) 2.3 tonnes | (f) 0.7 tonnes |

5. Change the following masses to grams:

- | | | |
|------------|-----------|-------------|
| (a) 1.2 kg | (b) 30 kg | (c) 0.07 kg |
|------------|-----------|-------------|

6. Convert the following volumes to ml:

- | | | |
|-------------------------|----------------|-------------------------|
| (a) 1.5 litres | (b) 30 litres | (c) $\frac{1}{2}$ litre |
| (d) $\frac{1}{4}$ litre | (e) 0.8 litres | (f) 0.05 litres |

7. Convert the following volumes to litres:

- | | | |
|-------------|------------|-------------------------|
| (a) 5000 ml | (b) 600 ml | (c) 1700 ml |
| (d) 20 ml | (e) 150 ml | (f) 400 cm ³ |

UNIT 17 *Units of Measure***Extra Exercises 17.3**

1. Estimate the lengths of each of the following lines, in inches:
 - (a) _____
 - (b) _____
 - (c) _____

2. Estimate the height and width of this page in inches.

3.
 - (a) Estimate the mass of a tin of baked beans in ounces.
 - (b) Weigh the tin to see how good your estimate was.

4.
 - (a) Estimate the mass of your text book in pounds.
 - (b) Weigh the text book to see how good your estimate was.

5.
 - (a) Estimate the height of a desk or table in feet and inches.
 - (b) Measure the height to see how good your estimate was.

6.
 - (a) Estimate the mass of your calculator in ounces.
 - (b) Weigh your calculator to see how good your estimate was.

7.
 - (a) Estimate the area of the following rectangle in square inches.



- (b) Measure the rectangle and calculate its area.

UNIT 17 *Units of Measure***Extra Exercises 17.4**

1. Change the following lengths to inches:
 - (a) 4 feet
 - (b) 6 yards
 - (c) 7 feet 3 inches
 - (d) $18\frac{1}{2}$ yards
 - (e) $7\frac{1}{4}$ feet
 - (d) 102 yards

2. Change the following distances to feet or feet and inches:
 - (a) 24 inches
 - (b) 108 inches
 - (c) 72 inches
 - (d) 144 inches
 - (e) 73 inches
 - (f) 47 inches

3. How many ounces are there in:
 - (a) 3 pounds
 - (b) $2\frac{1}{2}$ pounds
 - (c) $5\frac{1}{4}$ pounds
 - (d) 4 stones
 - (e) $6\frac{1}{2}$ stones
 - (f) $7\frac{3}{4}$ pounds ?

4. How many pints are there in:
 - (a) 11 gallons
 - (b) 32 gallons
 - (c) $7\frac{1}{2}$ gallons ?

5. Convert the following distances to miles:
 - (a) 480 km
 - (b) 80 km
 - (c) 416 km
 - (d) 176 km
 - (e) 4 km
 - (f) 30 km

6. How many litres are there in:
 - (a) 1000 gallons
 - (b) 180 gallons
 - (c) 272 gallons ?

UNIT 17 *Units of Measure***Extra Exercises 17.5**

(Where appropriate, give your answers to 3 significant figures.)

1. A glass holds 75 ml of drink. How many glasses can be filled from:
 - (a) a $\frac{3}{4}$ litre bottle of drink,
 - (b) a 150 ml carton of drink,
 - (c) a $3\frac{1}{2}$ pint container of drink ?

2. A gardener buys 352 pounds of soil. 5 kg of soil fills one pot. How many pots can he fill with the soil?

3. A school canteen orders 50 litres of milk. How many half-pint glasses can be filled with this milk?

4. A ball of string has a length of 60 m. How many 4-foot lengths of string can be cut from the ball?

5. A car wheel has a diameter of 40 cm. How many times would the wheel go round if the car travels:
 - (a) 1 km,
 - (b) 680 m,
 - (c) $\frac{1}{2}$ mile ?

6. A box contains 20 jars of jam. The mass of each jar of jam is 800 grams. Find the mass of the contents of the box in:
 - (a) kg,
 - (b) pounds.

Extra Exercises 17.1 Answers

1. B

2. B

Extra Exercises 17.2 Answers

- | | | | |
|----|-----------------|-----------------|----------------|
| 1. | (a) 8 cm | (b) 75 cm | (c) 0.8 cm |
| | (d) 500 cm | (e) 360 cm | (f) 127 cm |
| 2. | (a) 8 m | (b) 0.76 m | (c) 25 m |
| | (d) 1.6 m | (e) 0.9 m | (f) 0.02 m |
| 3. | (a) 80 mm | (b) 280 mm | (c) 36 mm |
| | (d) 4200 mm | (e) 18 000 mm | (f) 750 mm |
| 4. | (a) 3.2 kg | (b) 0.8 kg | (c) 0.05 kg |
| | (d) 2000 kg | (e) 2300 kg | (f) 700 kg |
| 5. | (a) 1200 g | (b) 30 000 g | (c) 70 g |
| 6. | (a) 1500 ml | (b) 30 000 ml | (c) 500 ml |
| | (d) 250 ml | (e) 800 ml | (f) 50 ml |
| 7. | (a) 5 litres | (b) 0.6 litres | (c) 1.7 litres |
| | (d) 0.02 litres | (e) 0.15 litres | (f) 0.4 litres |

Extra Exercises 17.3 Answers

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|----|------------------------------|---------|----------------------|
| 1. | (a) 1 " | (b) 3 " | (c) $4\frac{1}{2}$ " |
| 2. | (a) 8 " by $11\frac{1}{2}$ " | | |
| 7. | (b) 11 sq. inches | | |
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Extra Exercises 17.4 Answers

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|----|-----------------|--------------------------|---------------------------|
| 1. | (a) 48 " | (b) 216 " | (c) 87 " |
| | (d) 666 " | (e) 87 " | (f) 3672 " |
| 2. | (a) 2 ' | (b) 9 ' | (c) 6 ' |
| | (d) 12 ' | (e) 6' 1 " | (f) 3' 11 " |
| 3. | (a) 48 oz | (b) 40 oz | (c) 84 oz |
| | (d) 896 oz | (e) 1456 oz | (f) 124 oz |
| 4. | (a) 88 pints | (b) 256 pints | (c) 60 pints |
| 5. | (a) 300 miles | (b) 50 miles | (c) 260 miles |
| | (d) 110 miles | (e) $2\frac{1}{2}$ miles | (f) $18\frac{3}{4}$ miles |
| 6. | (a) 4500 litres | (b) 810 litres | (c) 1224 litres |

Extra Exercises 17.5 Answers

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|----|-----------|---------------|---------|
| 1. | (a) 10 | (b) 2 | (c) 26 |
| 2. | 31 | | |
| 3. | 177 | | |
| 4. | 49 | | |
| 5. | (a) 796 | (b) 541 | (c) 637 |
| 6. | (a) 16 kg | (b) 36 pounds | |