

Year 7 Term 2 Homework

Student Name: _____	Grade: _____
Date: _____	Score: _____

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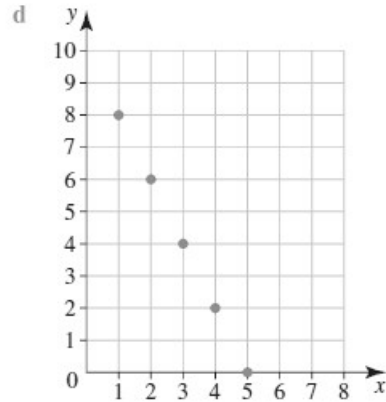
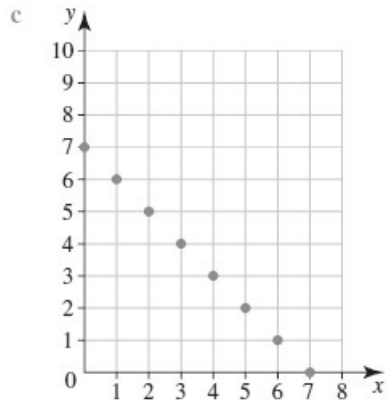
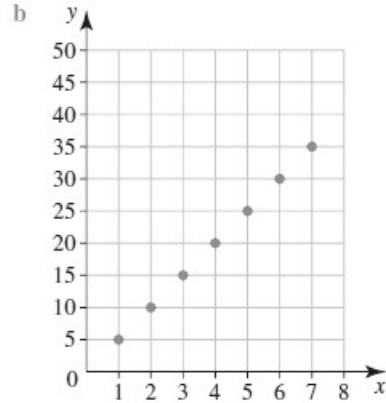
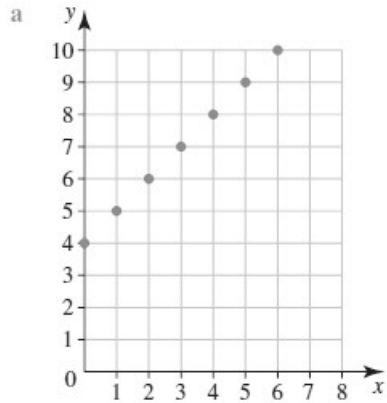
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9 Year 7 Term 2 Week 9 Homework

9.1 Number Patterns and Pronumerals

Exercise 9.1.1 Complete a table of values for each graph and hence determine the pattern rule.



1. a. _____

2. b. _____

3. c. _____

4. d. _____

9.2 Decimal

9.2.1 Addition and subtraction of decimals

Exercise 9.2.1 Express each decimal as a fraction and hence evaluate each of these. Give your answers as decimals or whole numbers:

1. $0.285 - 0.042$ _____

2. $0.55 + 0.68$ _____

3. $0.218 - 0.184$ _____

4. $3.468 - 1.357$ _____

5. $0.3 - 0.003$ _____

Exercise 9.2.2 Evaluate vertically:

1. $146.89 + 32.45 + 93.663$ _____

2. $3.861 + 513.98 + 72.035$ _____

3. $65.32 - 2.064$ _____

4. $638 - 245.67$ _____

5. $1.035 - 0.236$ _____

Exercise 9.2.3 Express each of these as a single decimal.

1. $5 + \frac{1}{2} + \frac{5}{100} + \frac{4}{1000}$ _____

2. $\frac{23}{1000} + 2 + \frac{12}{25}$ _____

3. $\frac{7}{1000} + 14 + \frac{3}{10}$ _____

9.2.2 Multiplication and division of decimals**Exercise 9.2.4 Write the decimal that lies halfway between:**

1. 0.03 and 0.04 _____

2. 0.2 and 0.18 _____

3. 3.57 and 3.58 _____

4. 1.02 and 1.03 _____

5. 0 and 0.005 _____

Exercise 9.2.5 Evaluate each of these:

1. 0.18×0.06 _____

2. 126.8×0.003 _____

3. 0.03^3 _____

4. $83.1 \div 5$ _____

5. $1.725 \div 6$ _____

6. $0.125 \div 1000$ _____

7. $4.68 \div 0.9$ _____

8. $12.75 \div 0.012$ _____

Exercise 9.2.6 Round off each decimal, correct to 2 decimal places.

1. 15.085 _____

2. 1.894 _____

3. 0.329 _____

9.3 Problem Solving

Exercise 9.3.1

1. In a Canadian city, 80% of the population speaks English and 70% speaks French. Every inhabitant can speak either French or English. What percentage of the population can speak both languages?

2. How is it possible to share 7 equal sized loaves of bread among 12 hungry people without cutting each loaf into 12 pieces?

3. A car and a van started from two cities at the same time and travelled towards each other at steady speeds. The car took 4 hours to cover the distance between the two cities and the van took 6 hours. After what amount of time did they pass each other?

4. The ratio of the lengths of the sides of a right-angled triangle is 3 : 4 : 5. If the area of the triangle is 96 cm^2 , what is the length of each of its sides?

5. The ratio of the lengths of 3 edges meeting at a vertex of a cuboid is 2 : 4 : 5. If the volume of the cuboid is 320 cm^3 , what lengths are the edges of the cuboid?

9.4 Diagnostic Test

1. Write each of these fractions as a decimal:

(a) $\frac{357}{100000}$ [5]

(a) _____

(b) $\frac{128}{100}$ [5]

(b) _____

2. Write down the value of 7 in each of these:

(a) 0.357 [5]

(a) _____

(b) 2.675 [5]

(b) _____

3. Evaluate vertically:

(a) $123.45 + 20.34 + 4.507$ [5]

(a) _____

(b) $456.78 - 98.76$ [5]

(b) _____

(c) 0.08×0.45 [5]

(c) _____

(d) 0.04^3 [5]

(d) _____

(e) $1.896 \div 0.08$ [5]

(e) _____

(f) $9.58 \div 0.5$ [5]

(f) _____

4. Convert $8\frac{23}{25}$ to a decimal. [5]

4. _____

5. Convert 4.506 to a fraction in its simplest form. [5]

5. _____

6. If \$82,048 was shared equally between 8 people, how much would each person receive? [10]

6. _____

7. The average height of a group of five boys is 1.42 m. If four of the boys have heights of 1.37 m, 1.38 m, 1.51 m and 1.47 m, find the height of the fifth boy. [10]

7. _____

8. The difference between an integer and its reciprocal is 7.875. Find the integer. [10]

8. _____

9. Find the value of $\frac{1}{1+\frac{1}{1+\frac{1}{1+1}}}$ [10]

9. _____

9.5 Maths Challenge

Exercise 9.5.1

1. *ABCD* is a parallelogram of area 15 cm^2 with $AB = 4 \text{ cm}$ and $BC = 5 \text{ cm}$. E , F , G and H lie on AB , BC , CD and DA respectively, with $AE = BF = AH = 3 \text{ cm}$. Find the area of the quadrilateral $EFGH$.

2. A rectangle has an area of 960 cm^2 and sides in whole centimetres which are multiples of 4. How many rectangular shapes satisfy this condition?

3. Ken buys two drinks and one ice-cream for \$8.50. Ben buys one drink and two ice-creams for \$9.50. Carol buys one drink and one ice-cream. How much will this cost Carol?

4. Two dogs run around a circular track 300 m long. One dog runs at a steady rate of 15 m per second, the other at a steady rate of 12 m per second. Suppose they start at the same point and time. What is the least number of seconds that will elapse before they are again together at the starting point?

9.6 Miscellaneous Exercises**Exercise 9.6.1**

1. If $m = -3$ and $n = -1$, find the value of $2m^2 - 3n$.

2. A car can travel 1 kilometre in 1 minute 12 seconds. How many kilometres will the car travel in 2 hours and 20 minutes?

3. A natural number is a multiple of 13 and also divisible by 4 and 6. What is the smallest number that satisfies these conditions?

4. If the distance between every two fence posts is 1 metre, find the number of posts needed to build a fence around an equilateral triangle with sides of 20 metres long.

5. In a bag there are six black cards and four red cards. If cards are taken unseen and one at a time, what is the smallest number of cards you must pick out to be sure of getting a pair of cards the same colour? What is the smallest number of cards you must pick to be sure of getting a pair of red cards and a pair of black cards?

Exercise 9.6.2 Without use a calculator, calculate the following:

1. $3 + 5.25 \div (0.7 - \frac{1}{4})$

2. $7.5 \div 3\frac{3}{4} \times (\frac{3}{5} + 2.25)$

3. $3.5 \div (5.6 \div 1.4 - 1.9)$

Exercise 9.6.3 Find the exact value of the following:

1. $1\frac{1}{3} \times 2\frac{1}{2} \div 1\frac{1}{2}$

2. $(5\frac{1}{3} \times \frac{1}{4}) - (2\frac{1}{3} \div 3\frac{1}{3})$

3. $\frac{4 - \frac{3}{5}}{4 + \frac{3}{5}}$
