

## Year 5 Term 3 Homework

<b>Student Name:</b> _____	<b>Grade:</b> _____
<b>Date:</b> _____	<b>Score:</b> _____

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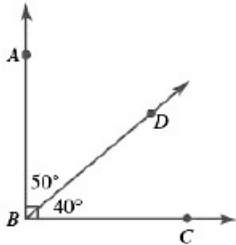
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# 9 Year 5 Term 3 Week 9 Homework

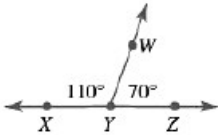
## 9.1 Topic 1 — Angles

- Complementary angles: A pair of angles have a sum of  $90^\circ$ .



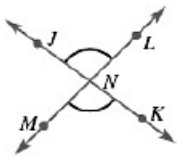
$$\angle ABC = \angle ABD + \angle DBC = 50^\circ + 40^\circ = 90^\circ$$

- Supplementary angles: A pair of angles have a sum of  $180^\circ$



$$\angle XYW + \angle WYZ = 110^\circ + 70^\circ = 180^\circ$$

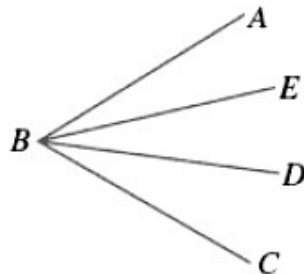
- Vertically opposite angles: A pair of opposite angles formed by the intersection of two straight lines are equal.



$$\angle JNL = \angle MNK \text{ also } \angle JNM = \angle LNK$$

### Exercise 9.1.1

1. In the diagram,  $\angle ABE = 25^\circ$ ,  $\angle ABD = 82^\circ$  and  $\angle EBC = 76^\circ$ . Find the size of  $\angle DBC$ .




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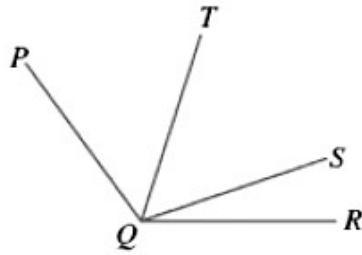


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2. In the diagram,  $\angle PQT = 32^\circ$ ,  $\angle PQS = 120^\circ$  and  $\angle PQR = 145^\circ$ . Find the size of  $\angle TQR$ .




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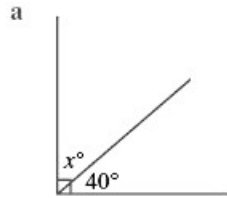


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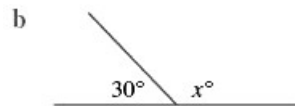


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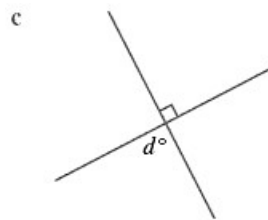
3. Find the value of the pronumeral in each of these:



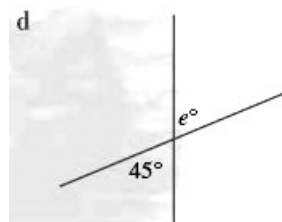
(a) Answer = \_\_\_\_\_



(b) Answer = \_\_\_\_\_



(c) Answer = \_\_\_\_\_



(d) Answer = \_\_\_\_\_

### 9.2 Topic 2 — Probability

1. Judy has a bag with 12 red, 8 green and 6 blue marbles.

(a) Which colour has the best chance of being pulled out?

\_\_\_\_\_

(b) What is the chance of drawing a green marble?

\_\_\_\_\_

(c) If the first marble drawn out was green marble, what is the chance of the second marble being drawn out is also a green one?

\_\_\_\_\_

2. What is the chance of rolling a six or a five when a die is rolled?

\_\_\_\_\_

\_\_\_\_\_

3. What is the chance of rolling a four or a five or a six when a die is rolled?

\_\_\_\_\_

\_\_\_\_\_

4. Richard is a dairy farmer with customers in Maine and New Hampshire. In Maine he sells his products to 3 restaurants and 9 supermarkets; In New Hampshire he sells his products to 4 restaurants and 1 supermarket. They all send him new orders at the beginning of the week. Early Monday morning he gets the first order from Maine and the first from New Hampshire. What is the probability that both are from restaurants?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. What is the chance of getting a sum of 10 when two dice are rolled?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**9.3 Topic 3 — Equations****Exercise 9.3.1**

1.  $5X + 3 = 3X + 9$

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2.  $4X - 10 = -2X + 14$

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3.  $\frac{X}{2} - 2 = 18$

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4.  $\frac{X}{2} - 2 = \frac{X}{3} + 3$

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5.  $\frac{X}{3} + 2 = \frac{X}{4} + 3$

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6.  $3X + \frac{1}{2} = 2X - 2$

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7.  $2X - \frac{1}{3} = \frac{1}{2} - X$

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**9.4 Topic 4 — Percentage****9.4.1 Percentage of Numbers**

① 200% of \_\_\_\_\_ = \$5.56

② 50% of \_\_\_\_\_ = \$1.53

③ \_\_\_\_\_ of \$2.33 = \$0.12

④ 25% of \$4.69 = \_\_\_\_\_

⑤ 25% of \$4.73 = \_\_\_\_\_

⑥ 10% of \_\_\_\_\_ = \$0.36

⑦ 10% of \$1.97 = \_\_\_\_\_

⑧ 5% of \$2.03 = \_\_\_\_\_

⑨ 20% of \$1.96 = \_\_\_\_\_

⑩ 25% of \$1.82 = \_\_\_\_\_

⑪ 5% of \_\_\_\_\_ = \$0.13

⑫ 200% of \$2.53 = \_\_\_\_\_

⑬ 200% of \$2.87 = \_\_\_\_\_

⑭ 200% of \_\_\_\_\_ = \$2.46

⑮ 50% of \$2.79 = \_\_\_\_\_

⑯ 200% of \$1.01 = \_\_\_\_\_

⑰ 20% of \_\_\_\_\_ = \$0.93

⑱ \_\_\_\_\_ of \$4.51 = \$9.02

⑲ 50% of \$2.86 = \_\_\_\_\_

⑳ \_\_\_\_\_ of \$4.56 = \$1.14

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Score: \_\_\_\_\_

**9.4.2 Percentage of Conversions**

	Percent	Decimal	Fraction	Ratio
①		0.22		
②				39 : 100
③		0.95		
④		0.79		
⑤		0.85		
⑥			$\frac{3}{10}$	
⑦	25%			
⑧			$\frac{71}{100}$	
⑨		0.65		
⑩	81%			
⑪		0.68		
⑫			$\frac{27}{50}$	
⑬			$\frac{2}{5}$	
⑭				91 : 100
⑮		0.37		

Score:

### 9.5 Problem Solving (Distance and Speed)

#### Exercise 9.5.1

1. Ben's father left home at 7:35 a.m. and returned home by 5:45 p.m. How long in hours was he away for?

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2. A cyclist travels at 16.5 km/h. How far in metres does he travel in 10 minutes?

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3. Tony cycles for 30 minutes at 18km/h and walks for another half a hour at a speed of 5.5 km/h. How far does he go?

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4. An airplane flies 1200 km in 1.5 hours. How far does it travel in 2 hours and 30 minutes?

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5. How long in minutes will it take to ride 9 km on a bicycle if it travels 8 metres per second?

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6. A hiker walks 15 km at a speed of 5km/h, rest for 30 minutes, then walks the remaining distance of 6 km at 4 km/h. What is his average speed?

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**9.6 Test Paper 9****9.6.1 Part A — 10 Multiple Choice Questions (1 mark each)**

1. Find the HCF of 27 and 45  
(A) 5                      (B) 3                      (C) 7                      (D) 9
  
2.  $4.567 + \boxed{?} = 7.654$   
(A) 3.087                      (B) 3.87                      (C) 3.078                      (D) 2.097
  
3. What is the square of 13?  
(A) 121                      (B) 144                      (C) 169                      (D) 196
  
4. Find the quotient of 6.75 and 5.  
(A) 1.75                      (B) 1.55                      (C) 1.35                      (D) 13.5
  
5. How many degrees clockwise are there from North-east to South-west?  
(A)  $90^\circ$                       (B)  $135^\circ$                       (C)  $180^\circ$                       (D)  $210^\circ$
  
6. 4.3 hours are equivalent to \_\_\_\_\_ minutes.  
(A) 158 minutes                      (B) 258 minutes                      (C) 246 minutes                      (D) 270 minutes
  
7. 760 ml is 80% of  $\boxed{?}$  mL.  
(A) 750                      (B) 950                      (C) 850                      (D) 820
  
8. A running track has a length of 400 m. If flags are placed every 50 m, how many flags are needed?  
(A) 8                      (B) 9                      (C) 10                      (D) 7
  
9. Find the product of 2.035 and 0.2.  
(A) 4.07                      (B) 0.407                      (C) 0.47                      (D) 4.7
  
10. How long will it take to run 400 m if you can run at 7.5 metres per second?  
(A)  $51\frac{1}{3}$  seconds                      (B)  $52\frac{1}{2}$  seconds                      (C)  $53\frac{1}{3}$  seconds                      (D)  $43\frac{1}{3}$  seconds

**9.6.2 Part B — 10 Average Questions (2 marks each)**

1. What is the average of  $\frac{2}{5}$  and  $\frac{2}{3}$ ?

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2. Four consecutive whole numbers have a sum of 146. What is the largest number?

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3. Two numbers have a difference of 12 and their average is 20. What is the smallest number?

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4. For every \$5 that I save, my mother gives me \$2. How much must I save if I want to buy a Nintendo DS Lite Console which costs \$196?

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5. The sum of two numbers is 32 and their difference is 12. Find the largest number.

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6. If a certain number is added to the denominator of  $\frac{51}{112}$  the answer is  $\frac{3}{7}$ . Find the number.

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7. A triangle ABC has an angle B which is twice larger than the angle C, and the angle A is half of the angle B. How many degrees is angle B?

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8. Simplify  $36 \div 9 \times 2 + 3 \times 3 =$

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9.  $108 \div 6 \times 3 + 21 \div 3 + 4 =$

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10. Solve the equation  $3x + \frac{x}{2} = 14$ .

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**9.6.3 Part C — 10 Extension Questions (3 marks each)**

1. John's age is 35 and his son's age is 7. In how many years will John's age be 3 times his son's age?

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2. When the sum of A and B is 58, the sum of B and C is 77, and the sum of A and C is 65. Find the sum of A, B and C.

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3. Five consecutive odd numbers whose sum is 155. What is the largest number?

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4. 15 pencils and 6 pens cost \$1.65. If each pen costs three times as much as a pencil, what is the cost of a pencil?

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5. A rectangle has an area of  $192 \text{ cm}^2$ . Find the length if the breadth is 4 cm less than the length.

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6. In a class of 29 children, 17 play tennis, 19 play squash and 5 play neither sport. How many children play only squash?

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7. It takes 6 men 5 hours and 30 minutes to paint a room. How long will it take 4 men to paint the same room?

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8. How many 3 digit numbers can be formed by using the digits 1, 2, 3 and 4 provided that each digit is only used once?

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9. Find the total surface area if a rectangular prism has a dimension of 40 cm by 50 cm by 30 cm.

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10. A rectangular prism has a surface area of  $142 \text{ cm}^2$ . If its length and breadth are 5 cm and 7 cm respectively, what is the height of the prism?

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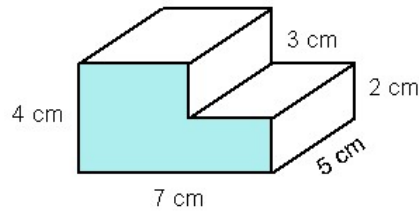
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**9.6.4 Part D — 8 Challenging Questions (5 marks each)**

1. Find the volume of the solid shown below:



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2. Find the surface area of the figure in question 1.

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3. The trip from Town A to Town B was travelled at 80 km/h, and the trip back at 60 km/h. What was the average speed?

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4. Mary spent  $\frac{1}{4}$  of her money on books and  $\frac{1}{9}$  of the remaining amount on pens. If she had \$72 at first, how much had she left?

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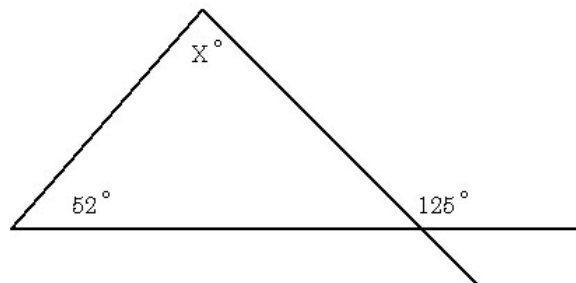
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5. Find the  $\angle X$  in the diagram shown below:



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6. Martin and Adam shared a sum of money in the ratio of 2 : 1. Martin used \$16 to buy a birthday gift for his mother and the new ratio is 4 : 3. Find the total sum of money they had in the beginning.

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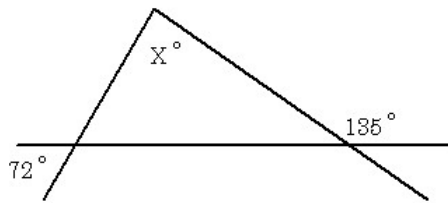
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7. Find the  $\angle X$  in the diagram shown below:



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8. In a class of 29 students, 7 of them obtained an A grade in a math exam. The others obtained a B, C and D grade in the ratio 5 : 4 : 2. What fraction of the students in the class has obtained an A or B grade?

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