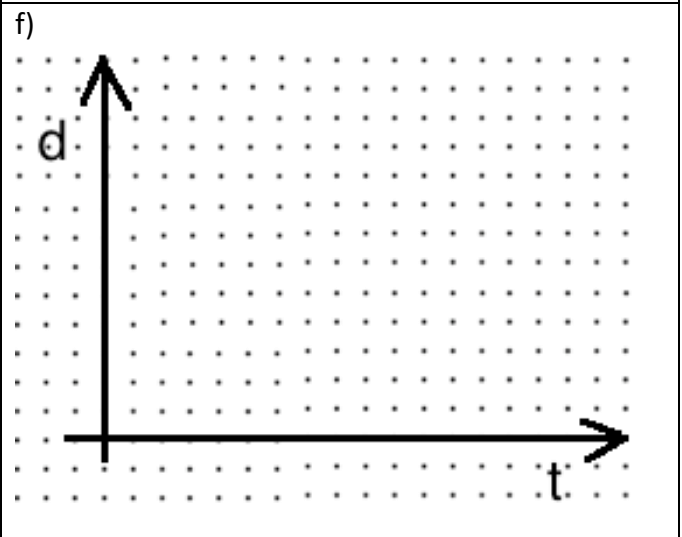
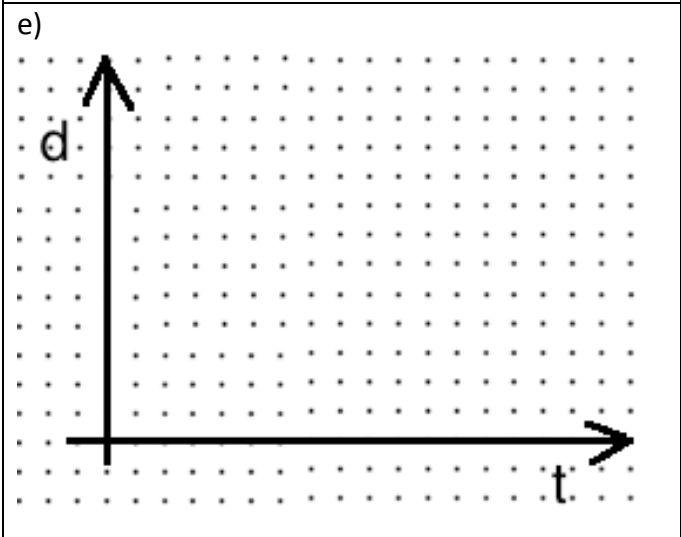
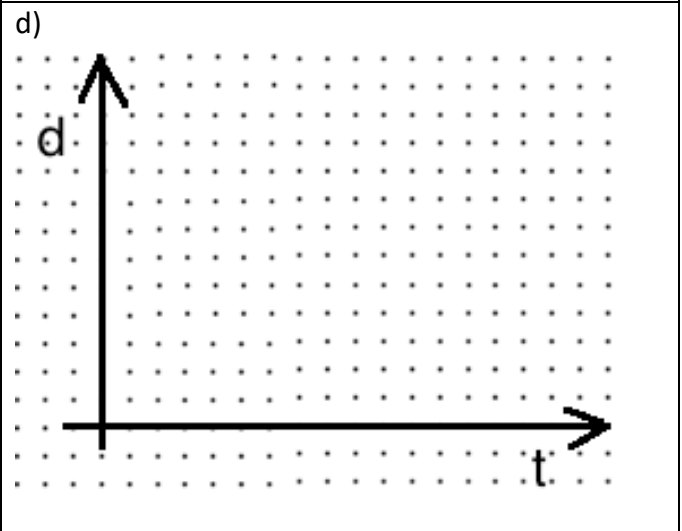
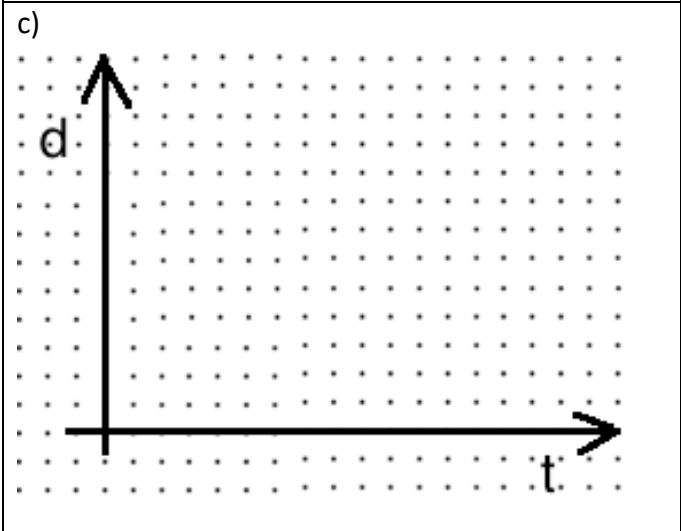
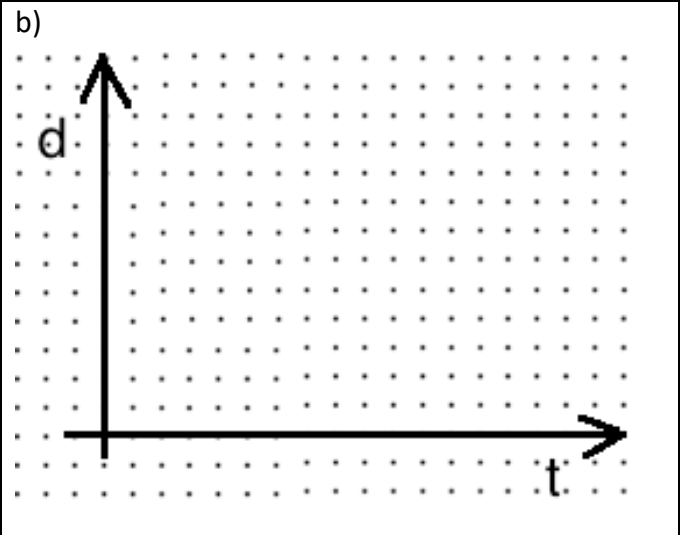
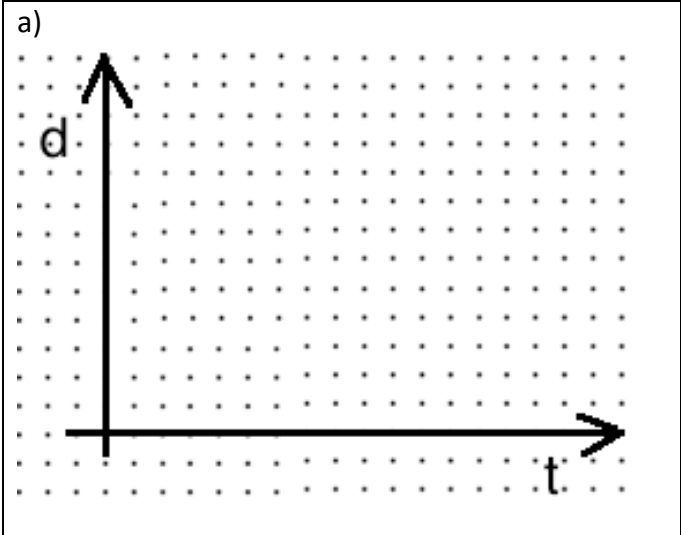


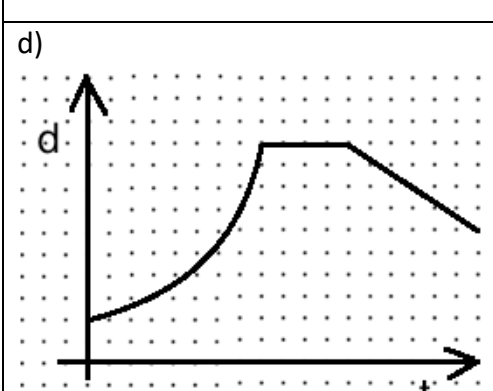
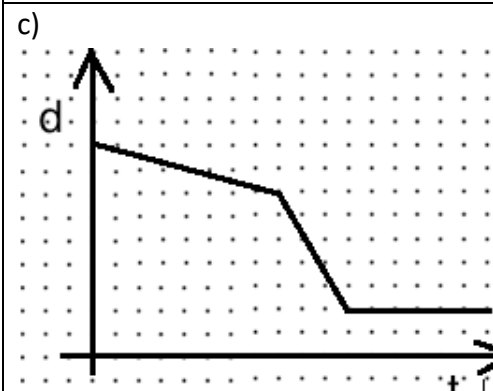
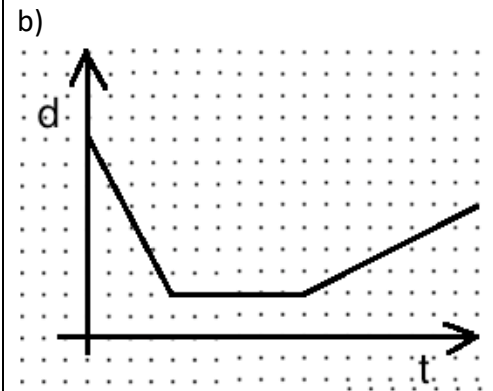
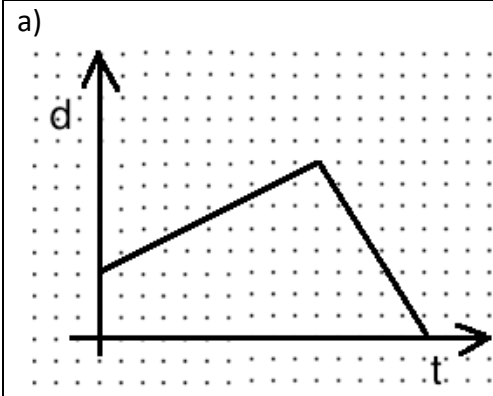
Distance-Time Graphs – Practice

Name: _____

1. Mr John will describe the motion of a student. You draw a graph that matches.



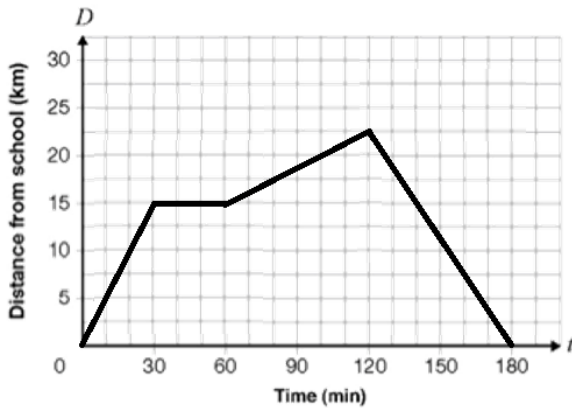
2. Given a graph, describe the motion of the student. Use words like:
Moving towards, away from, quickly, slowly, stopped, slowing down, speeding up



Analyzing Distance Time Graphs

EXAMPLE

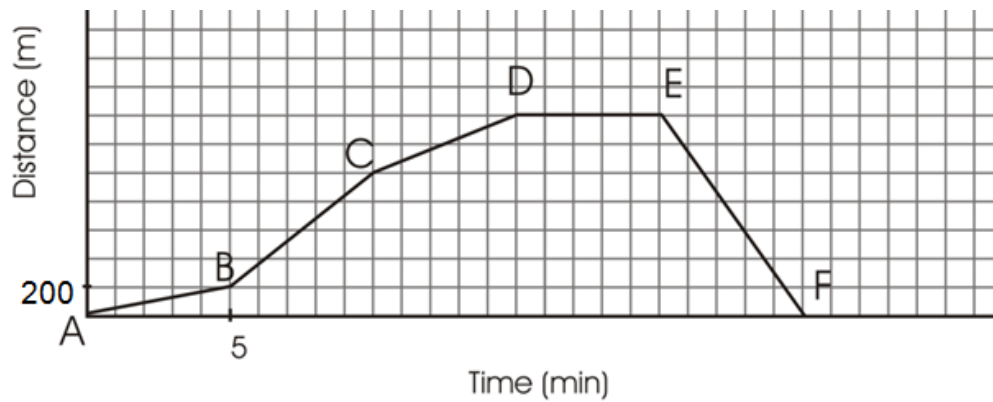
Describe the four parts of the journey using information from the graph. Include information about distance, direction, time and speed.



Part	Distance	Direction	Time	Speed

Q1: A Walker's Walk

Chris walks each day. The graph shows his distance from home.

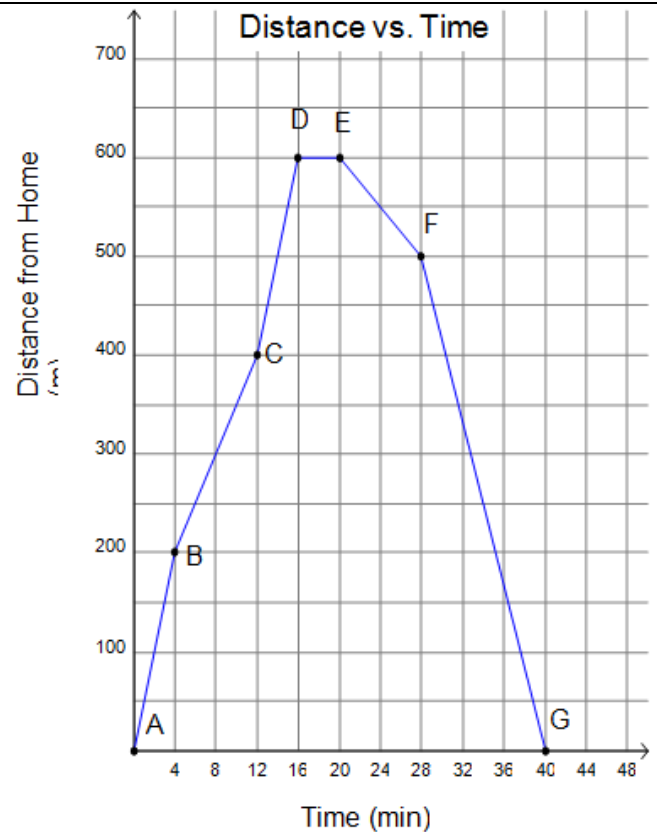


Using the graph, analyze Chris' motion.

Include information about time, distance, direction and speed during each segment

Q2 Misha goes to the store to buy milk. A distance-time graph for Misha can be seen to the right.

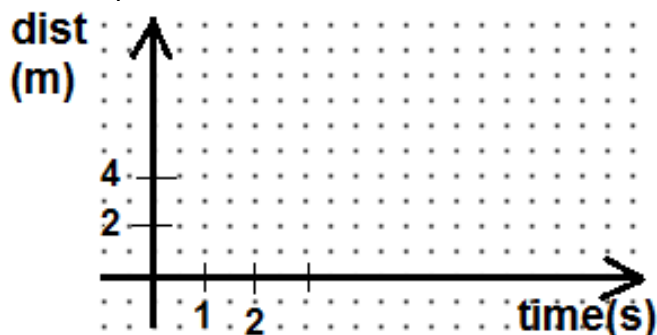
1. a) At what letter does Misha leave home?
- b) At what letter does Misha arrive at the store?
- c) At what letter does Misha arrive at home?
2. How long did it take Misha to get to the store?
3. How long did Misha stay at the store?
4. How long did it take Misha to get home from the store?
6. How far did Misha travel from B to C?
7. How long did it take Misha to travel from B to C?
8. What was Misha's speed (in m/min) from B to C?
9. Calculate Misha's speed from E to F.
10. How can you tell (without calculations) that Misha was travelling faster during BC than EF?
11. When is Misha travelling the fastest?



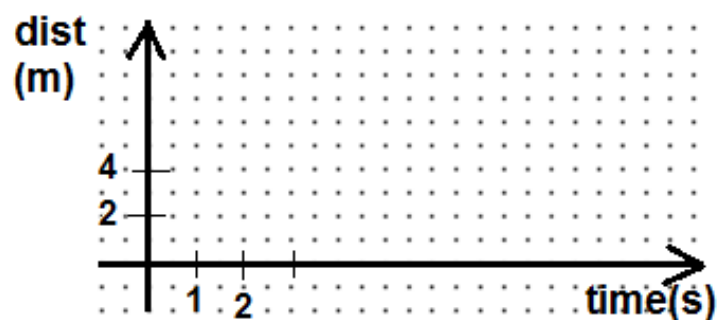
12. When is Misha travelling the slowest?
13. What is the total distance that Misha travels?

Q3: Sketching Graphs - Draw a distance-time graph that matches the description.

a) Start 5 m away from CBR. Walk 3 meters further away in 2 seconds. Stop for 3 seconds. Then walk towards CBR at 2 m/s for 3 seconds. Then stop.



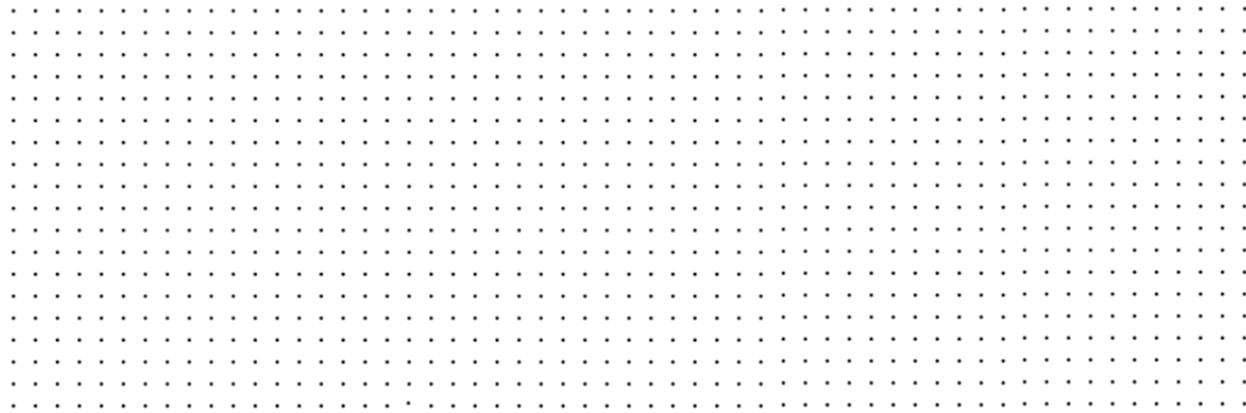
b) Start 2 m from CBR. Walk away from CBR at 1.5 m/s for 4 seconds. Stop for 2 seconds. Walk 2 m towards CBR in 2 seconds, then speed up and walk towards CBR at 2 m/s for 3 seconds.



Q4: More Drawing Graphs:

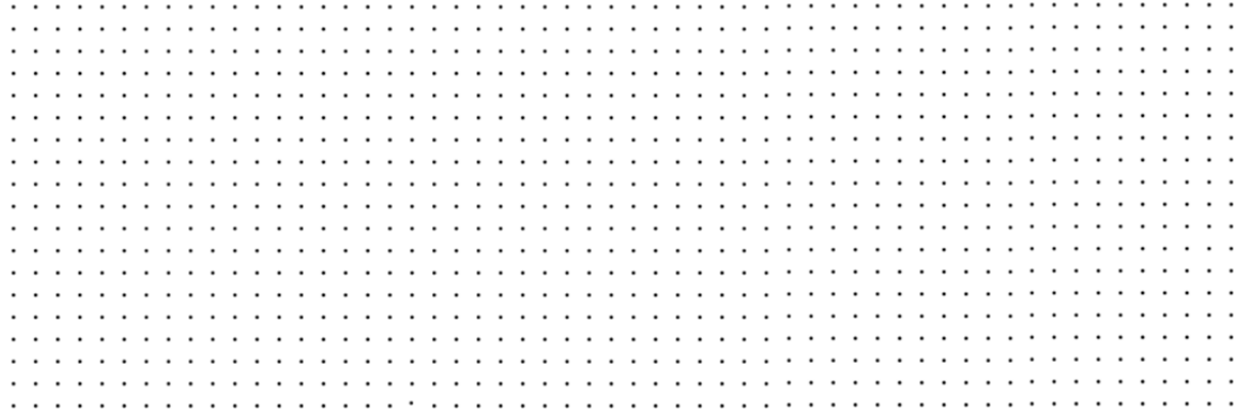
Draw a distance-time graph to match the following story:

Terri played soccer 4 km from her home. She gets on her bike and starts to ride home. After 10 minutes she is 2 km from her home but she is also tired and rests for 5 minutes. She then rides towards home at 0.1 km/min for 10 minutes. After that she rides the remaining distance in 5 minutes, going faster and faster until she reaches her home.



Q5. More sketching practice

Sketch the graph of a journey that includes: a fast walk, a slow walk, some time standing still, moving towards, moving away, and slowing down. Make sure to label each of the components.



ANSWERS (I think!)

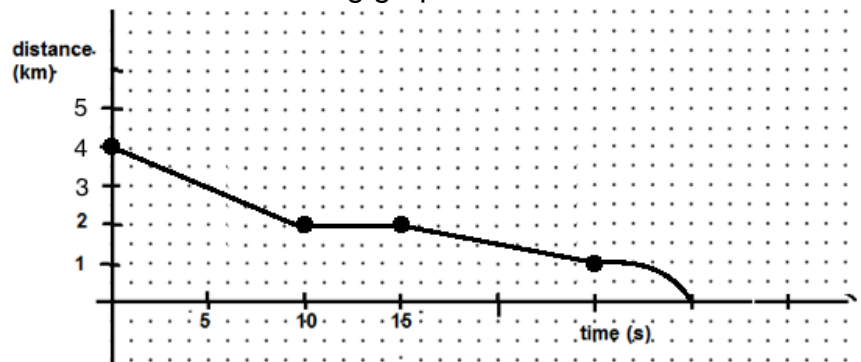
Q2 – Walker’s Walk

	Dist (m)	Direction	Time (min)	Speed (m/min)
AB	200	Away	5	40
BC	800	Away	5	160
CD	400	Away	5	80
DE	0	N/A	5	0
EF	1400	towards	5	280

Q2 Corner Store

- 16 mins
- 4 mins
- 20 mins
- Line going up and to right
→ away
Line going down and to right
→ towards
- 200 m

Q4 More drawing graphs



- 8 mins
- $200/8 = 25$ m/min
- 12.5 m/min
- Line BC is steeper: up 4 over 2, vs EF down 2 over 2
- AB – steepest line
- EF
- No – point G is when they get home, it is after 40 minutes

A **ratio** is a comparison of quantities. For example, if there are 8 apples and 6 oranges in a bowl, the ratio of apples to oranges is 8:6. In this case, there are a total of $8 + 6 = 14$ pieces of fruit.

Ratios can be simplified by finding a number that divides evenly into all numbers in the ratio. For example, a ratio of 8:6 can be reduced to 4:3 by dividing each number by 2.

Example 1 Simplify each:

a) $20 : 24$

b) $21 : 15$

c) $10 : 25 : 45$

Example 2 A 350 mL can of red paint is mixed with 1050 mL of yellow paint to make orange paint

a) Write a ratio in simplest form to compare the amount of yellow paint to red paint.

b) Write a ratio in simplest form to compare the amount of yellow paint to the amount of orange paint.

c) How much yellow paint is needed to make 1200 mL of orange paint? (hint...your ratio from b could be useful!)

Example 3 You have 300 candies. Some are red, some white, and some pink. The ratio of the red to white to pink is 5:2:3. How many of each colour is there?

A **rate** compares quantities that are measured in different units.

A **unit rate** or **rate of change** describes how many units of the first type of quantity correspond to one unit of the second type of quantity.

Examples:

Rate	Unit Rate
I drive 160 km per 2 hours	$\frac{160km}{2h} = 80 \text{ km/h}$
I earn \$480 every 4 days	$\frac{\$480}{4 \text{ days}} = \$120/day$

Example 4 - Calculate the unit rate for each:

- a) You travel 360 km in 4.5 hours. b) You type 500 words in 12 minutes. c) You made \$170 in 20 hours.

Example 5 The table below shows the price per case of water at different stores. Evelyn is buying 120 bottles of water. At which store should Evelyn buy her water to pay the least? How much would it cost? **(EQAO)**

Store	Price per case	# of 500 mL bottles per case
Cheapies	\$1.75	8
Food smart	\$2.25	12
Variety Foods	\$4.59	20
Super Grocers	\$4.99	24

Guzzling Gas

David and Shaunese each take a 450 km trip.

- David drives a car and uses 7 L of gas per 100 km
- Shaunese drives a truck and uses 12 L of gas per 100 km.

If gas costs \$1.23/L, how much more will it cost Shaunese than David to drive 450 km? Show your work.

A percent is a number expressed as a fraction of 100. For example, if I say 32% of the animals are cows, it means that for every 100 animals, 32 of them are cows. If there are 200 animals, there are 64 cows.

Percents can be expressed using decimals or fractions: $32\% = 0.32 = \frac{32}{100}$

In fact, when doing calculations it is often more convenient to use decimals.

25% of 60 is 15



$0.25 \times 60 = 15$

1. BASIC PRACTICE

<p>30 is what percent of 80?</p> $\frac{30}{80} = 0.375 \quad \text{So } 37.5\%$	<p>What is 40% of 60?</p> $0.4 \times 60 = 24$	<p>20% of a number is 50. What is the number?</p> $? \times 0.2 = 50$ $\frac{50}{0.2} = 250$
<p>15 is what percent of 70?</p>	<p>What is 30% of 120?</p>	<p>70% of a number 42. What is the number?</p>
<p>40 is what percent of 28?</p>	<p>What is 18% of 80?</p>	<p>32% of a number 10. What is the number?</p>

2. Your friend gives you a box of 150 apples. Unfortunately, some of the apples have gone bad!

<p>If 4% of the apples have gone bad how many apples is this?</p>	<p>If 10 of the apples have gone bad, what percentage is this?</p>	<p>If 12% of the apples have gone bad, how many apples are still good?</p>
---	--	--

3. More mixed examples...show your work!

<p>a) Ben has read 75 pages of a 200-page book. What percentage of the book has he read?</p>	<p>b) Gail has \$1000 in the bank. She took out \$50 to buy school supplies. What percentage of her savings did she take out?</p>
<p>c) Your friend sells you a skateboard for 75% of the original price. Your friend paid \$120. What do you pay?</p>	<p>d) You eat 40 g of chocolate, which is 30% of the entire chocolate bar. How much did the full chocolate bar weigh?</p>
<p>e) Charlie and Lena buy a present for their mother. Charlie spends \$10 and Lena spends \$15. What percentage of the total did Lena spend?</p>	<p>f) You travel 6 km, which is 80% of the distance to school. What is the full distance to school?</p>

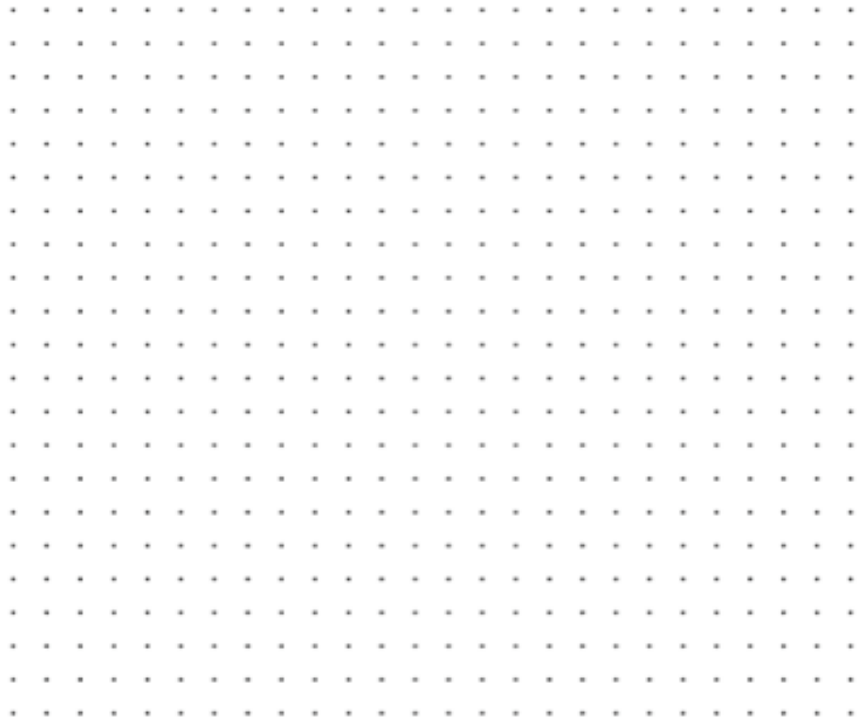
5. Start with the number 100. Increase it by 20%. Then take the answer, and increase it again by 20%. Is this the same as increasing the number 100 by 40%? Explain!

Cube Link Follow Up Questions

Name: _____

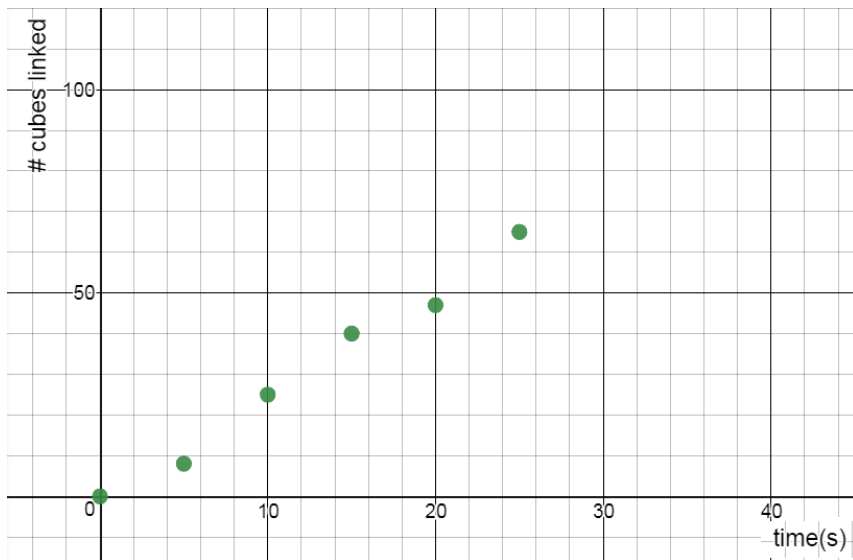
1. Make a scatterplot and draw a line of best fit for the following cube link data.

Time (s)	# cubes linked
0	0
5	15
10	38
15	47
20	65
25	79



2. If the group linked for 30 seconds, how many cubes would you expect it to link?
State the Coordinates and mark a point.
3. If the group linked 55 cubes together, how many seconds did it link for?
State the Coordinates and mark a point.
4. Approximately how many cubes are linked every second? Show your calculations or explain.
Note: this number is called the **rate of change**, or **unit rate**.
5. If you linked cubes for 200 seconds, how many cubes would you link? Show calculation.
6. If you linked 750 cubes, how many seconds were you linking for? Show your calculation.
7. The group links cubes, and links 110 cubes in 60 seconds. Is it going faster or slower than before?

The cubes link scatterplot for GROUP A is shown below. Draw a line of best fit for this scatterplot.



8. Determine the rate of change for this group. In other words, how many cubes does it link per second? Show your calculation.

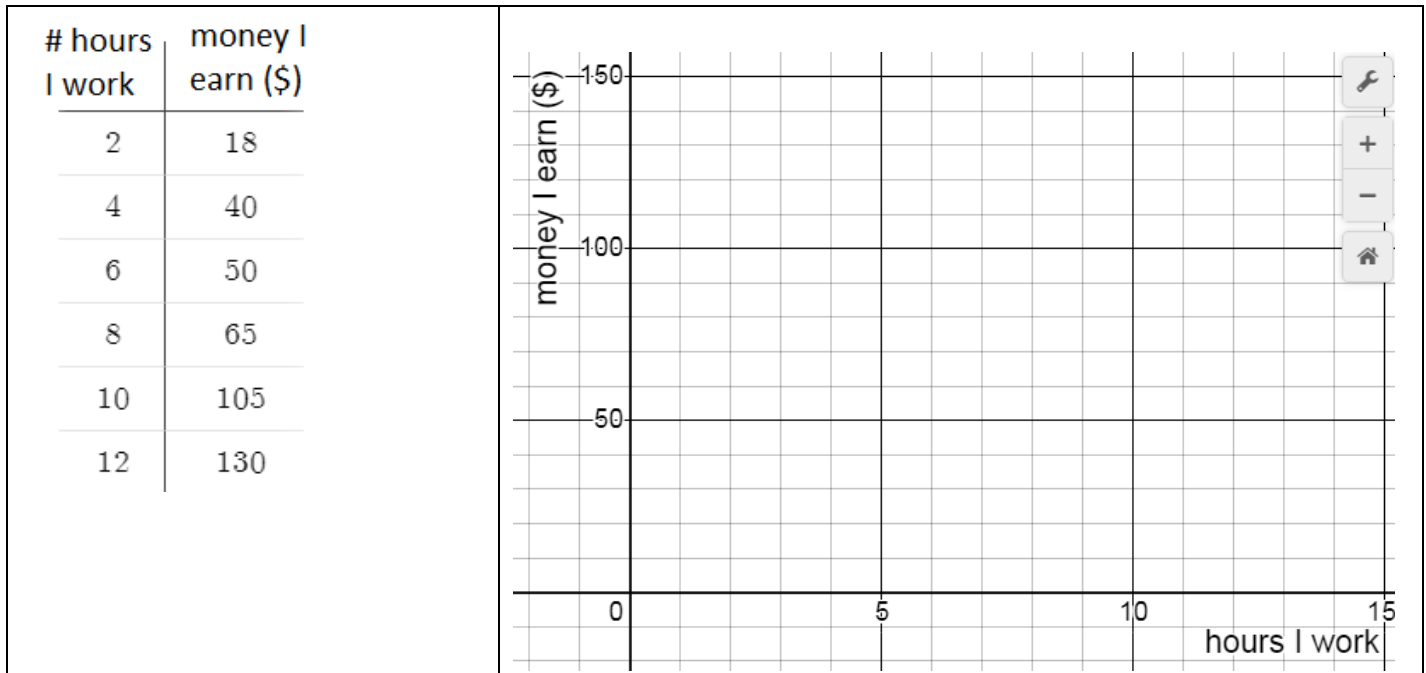
9. If this group linked cubes for an hour, how many cubes could it link? Show calculations or explain your thinking.

10. a) GROUP B links with one hand only. Draw a line on the graph above for this group. Use a ruler.
 b) GROUP C works about the same speed as GROUP A, but they start with some cubes already linked together. Draw a line that could represent this group.
 c) We let GROUP D start with 50 cubes already linked, but they really don't like this activity. Instead of adding new cubes to their chain, they slowly remove cubes from their chain. Draw a line for this group.

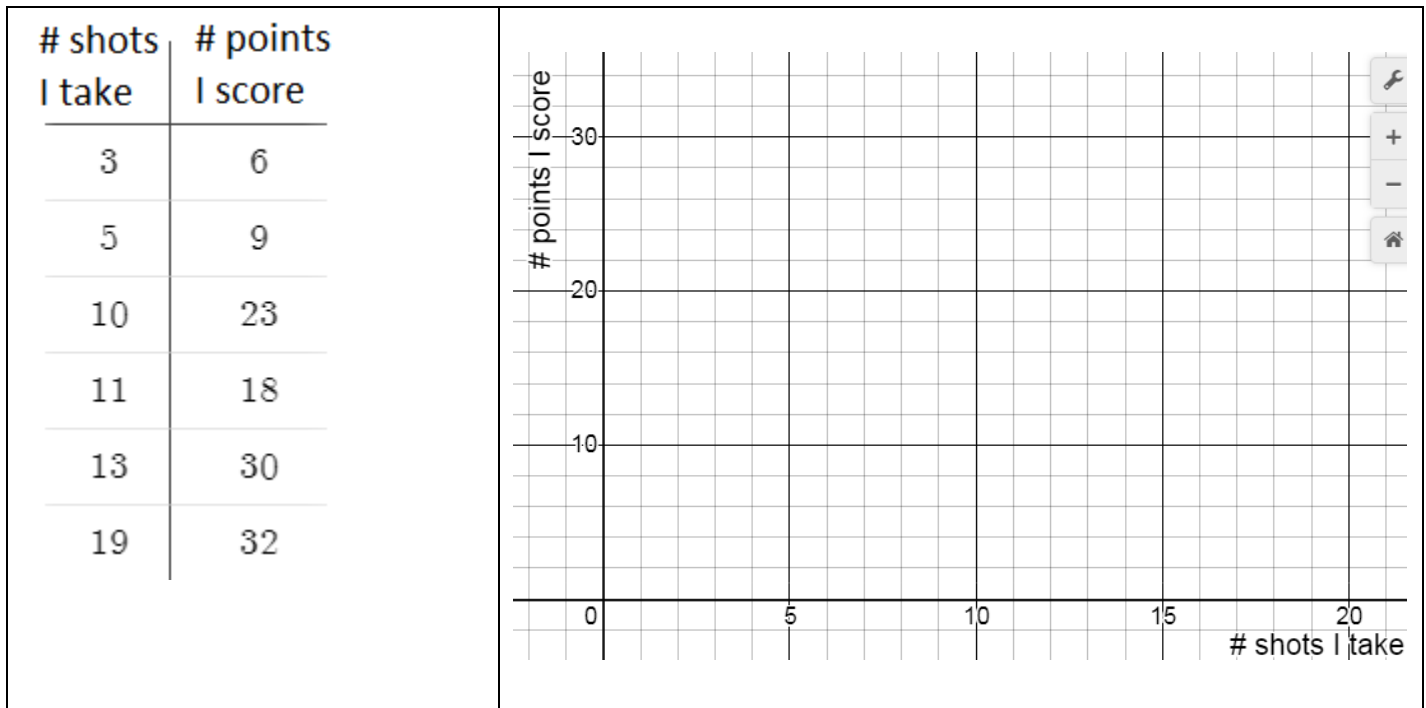
11. A group links cubes at a rate of 2.5 cubes per second, and decide they want to make a stack that goes all the way to Parliament Hill (3.8 km away). If we pay the group \$5/hour for their work, how much will they earn? Show your work.

Scatterplots, Lines of Good Fit, Predictions, Rates of Change Name: _____

USE YOUR LINE OF BEST FIT TO MAKE PREDICTIONS.



- | | |
|---|--|
| 1. Make a scatterplot using the data from the table of value. | 2. Draw a line of best fit for the points in your scatterplot. |
| 3. How much money will you earn if you work for 7 hours? State the coordinates and mark a point on the graph. | 4. If you earned \$90, how long did you work for? State the coordinates and mark a point on the graph. |
| 5. Use a point on your line to determine the rate of change. Show your calculation and include units. | 6. Explain the meaning of the rate of change. |
| 7. How much money will you earn in one year if you work for 3 hours every day? | |

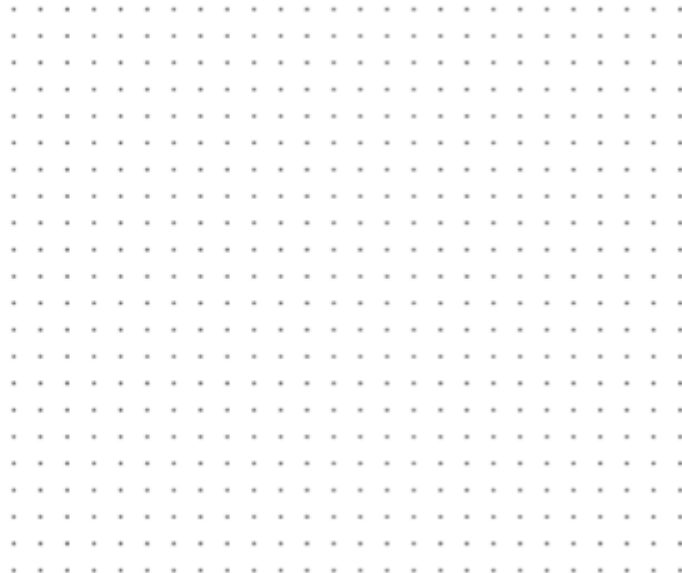


- | | |
|--|---|
| <p>1. Make a scatterplot using the data from the table of value.</p> | <p>2. Draw a line of best fit for the points in your scatterplot.</p> |
| <p>3. How many points will you score if you take 7 shots? State the coordinates and mark a point on the graph.</p> | <p>4. Predict how many shots you took if you scored 26 points. State the coordinates and mark a point on the graph.</p> |
| <p>5. Use a point on your line to determine the rate of change. Show your calculation and include units.</p> | <p>6. Explain the meaning of the rate of change.</p> |
| <p>7. You took 24 shots and scored 40 points. Is this more or fewer points than you would expect to score? Explain how you know.</p> | |

MPM1D – Scatterplots, Rates of Change, Making Predictions

1. Make a scatterplot to represent the data, and draw a line of good fit. Then answer the questions.

# customers	amount earned in tips (\$)
2	3
5	5
10	16
12	19
17	28
25	41

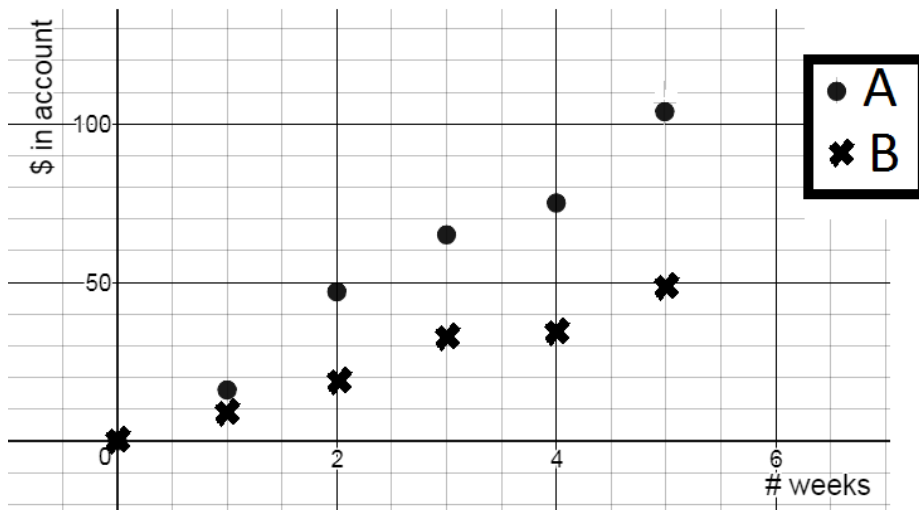


Calculate the rate of change. Show calculation and units.

How much would you expect to earn in tips if you served 45 customers?

If you earned \$85 in tips, how many customers did you probably serve? Use your rate of change.

2. The amount of money in two bank accounts is shown in the graph below. How much more will you expect there to be in Account A after one year? Justify.



MPM 1D – Direct Variation Examples – do on a separate sheet!

1. You leave home, and then travel 70 km in 4 hours. Let d represent your distance from home (in km), and t the number of hours your drive.

- Find the rate of change and write an equation relating distance and time. Include units.
- Make a table of values showing values of t between 1 and 5.
- Find the distance travelled in 13.2 hours (use your equation).
- How long it would take to travel 170 km (use your equation)?

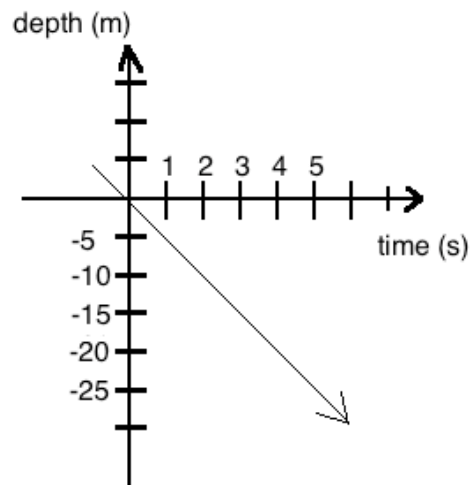
2. The income at a music concert (I in \$) depends on the number of people (n) that attend. The table of values below shows the relationship between I and n .

- Find the rate of change. Include units. What does the rate of change represent in this case?
- Write an equation relating your variables
- Use your equation to determine how much money was earned when 530 people attended.
- Use your equation to determine how many people attended when the income was \$13598.

N (people)	i (\$)
0	0
50	1300
100	2600
150	3900
200	5200

3. The depth of a submarine relative to sea level (d in m) vs. time (t in s) is shown in the graph below.

- Find the rate of change. Include units.
- Find an equation relating depth & time
- Use your equation to determine the depth of the submarine after 21.5 s
- The Mariana Trench is the deepest point in the Pacific Ocean with a depth of 10 911m. How long would it take the submarine to reach the bottom (if it could)?



4. The equation $h = 0.4d$ relates the height of a plant, h in cm, to the number of days, d , since it was planted.

- What is the rate of change? Include units.
- What does the rate of change represent/mean?
- Use your equation to determine the height of the plant in 3 weeks time.
- Use your equation to determine how many days it will take for the plant to be a meter tall.

Answers: 1a) 17.5 km/h	c) 231 km	d) 9.7 h or 9 h 42 m
2. a) \$26/person	b) $i = 26n$	c) \$13870 d) 523 people
3. a) -5 m/s	b) $d = -5t$	c) -107.5 m d) 2182.2 s or 36 m 22 s

MPM1D – Multiple Representations Practice

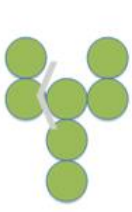

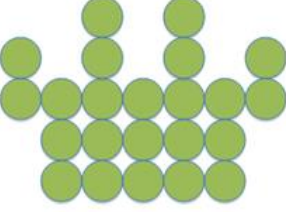
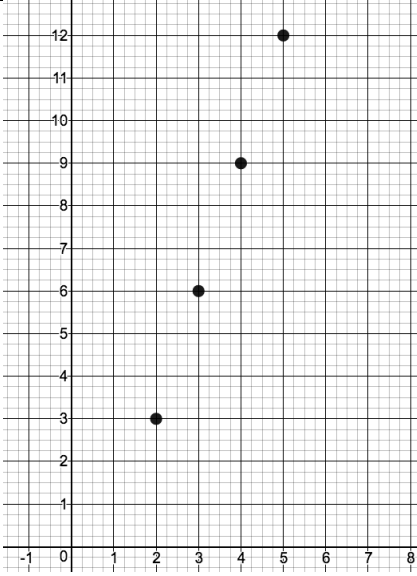
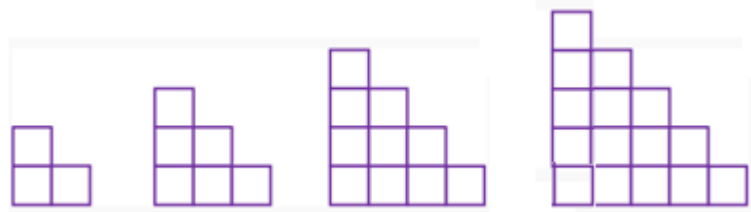
Try to represent each relationship:

-as a table

-in words

-as an equation

-as a graph

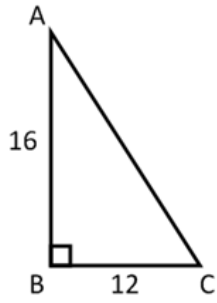
1.	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Figure 1</p> </div> <div style="text-align: center;">  <p>Figure 2</p> </div> <div style="text-align: center;">  <p>Figure 3</p> </div> </div>										
2.	As a babysitter you are paid \$10 just for showing up, and an additional \$6 for every hour you babysit										
3.	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Time (minutes)</th> <th>Candies remaining</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>7</td> </tr> <tr> <td>2</td> <td>5</td> </tr> <tr> <td>3</td> <td>3</td> </tr> <tr> <td>4</td> <td>1</td> </tr> </tbody> </table>	Time (minutes)	Candies remaining	1	7	2	5	3	3	4	1
Time (minutes)	Candies remaining										
1	7										
2	5										
3	3										
4	1										
4.	$T = 2n + 7$										
5.											
6.											

Name: _____

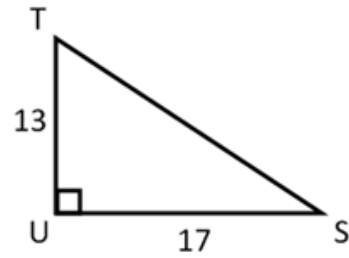
FINDING MISSING SIDES OF RIGHT TRIANGLES

Find the unknown side using sum of squares/Pythagorean theorem.

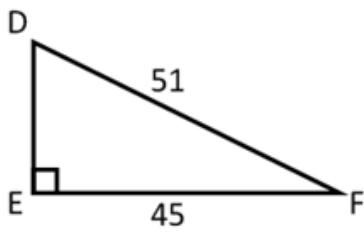
a)



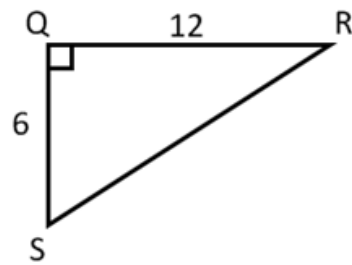
b)



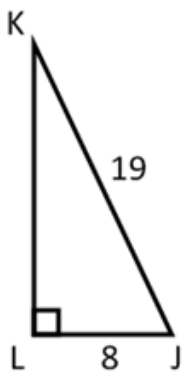
c)



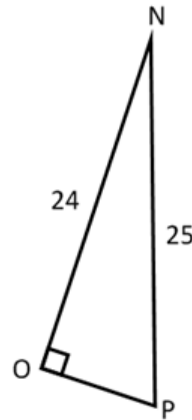
d)



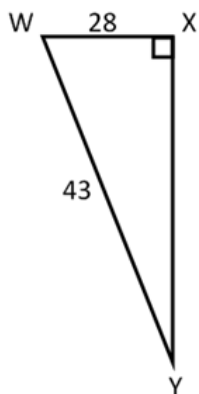
e)



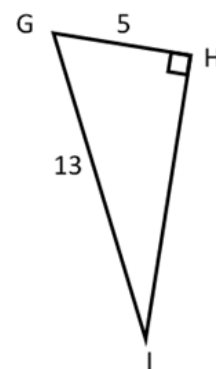
f)



g)



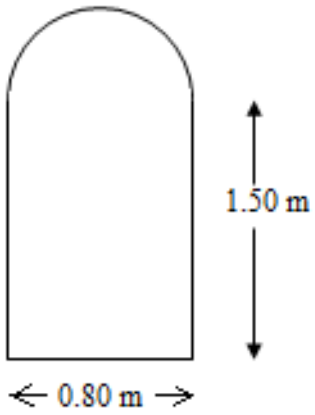
h)



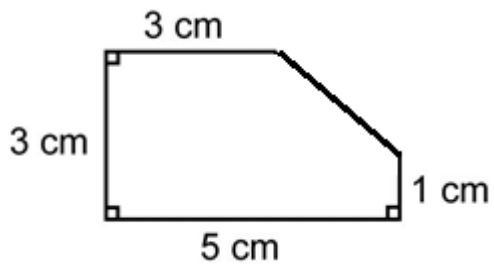
MPM1D Areas and Perimeters of Composite Figures Name: _____

Find the area and perimeter of the following shapes. Show all important calculations.

Example 1



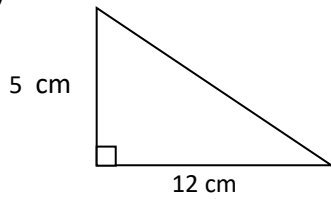
Example 2



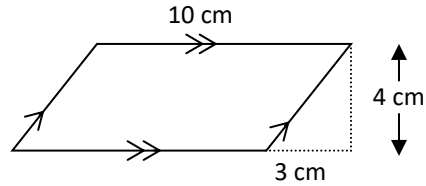
Areas of Composite Figures

1. Calculate the perimeter and area of each shape.

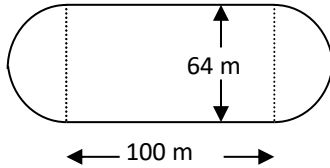
a)



b)

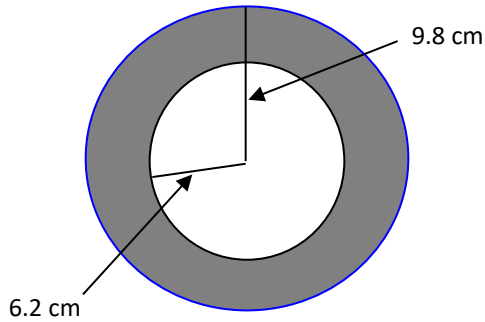


c)

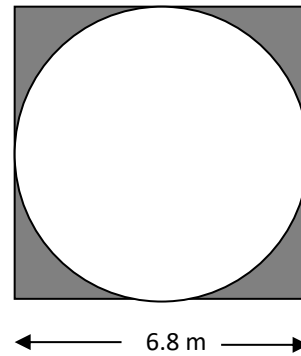


2. Calculate the area of the shaded region.

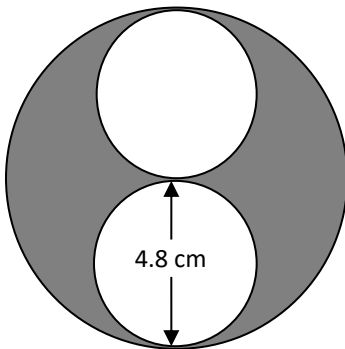
a)



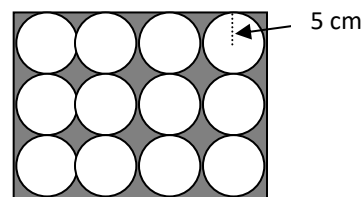
b)



c)



d)



Application

3. The field inside a 400 m running track is to be seeded. Each straight portion of the track is 100 m. Each curved part of the track is a semicircle. One 1.5 kg bag of grass seed will seed an area of 80 m^2 .

- What is the length of each curved part of the track?
- Calculate the width of the field.
- Calculate the area of the field.
- Determine the number of bags of seed required.
- One 1.5 kg bag of grass seed costs \$12.64. How much does it cost to seed the field?

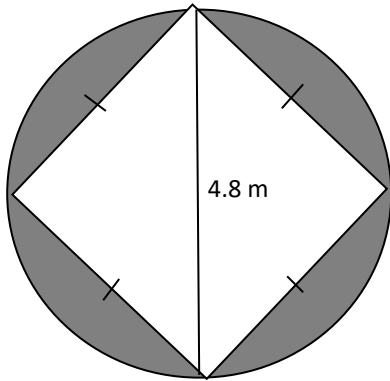
Trickier...

4. A dog is tied to a 2-m leash at ground level on the side of a building. The leash is attached 1 m from the corner of the building.

- a) Sketch the region within the dog's reach and label dimensions.
- b) Determine the area of this region, to the nearest square metre.

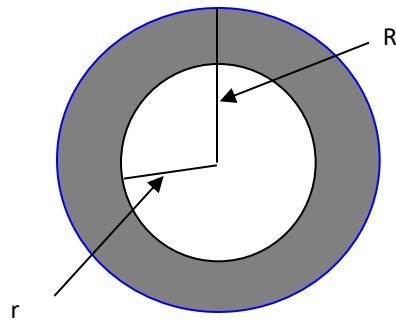


5. Calculate the area of the shaded region

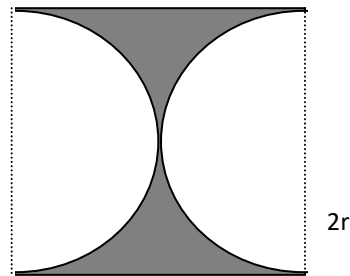


6. Find an expression for the area of the shaded part of each figure.

a)



b)



Answers

	Perimeter (cm)	Area (cm ²)
a	30	30
b	30	40
c	401	9617

- 2. a) 181 cm²
- b) 9.9 m²
- c) 36 cm²
- d) 258 cm²

- 4. b) 7 m²
- 5. 6.5 m²

- 6. a) $A = \pi R^2 - \pi r^2$
- b) $A = 4r^2 - \pi r^2$

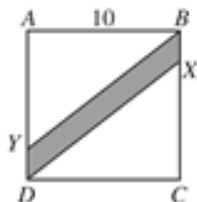
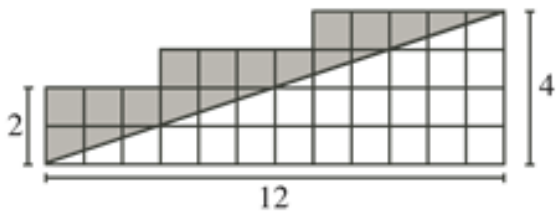
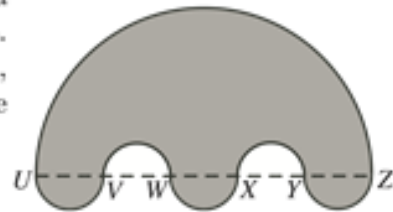
- 3. a) 100 m
- b) 64 m
- c) 9617 m²
- d) 121 bags
- e) \$1529.44

Composite Shape Problem Set

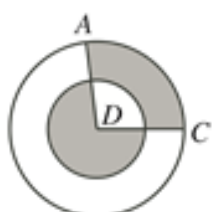
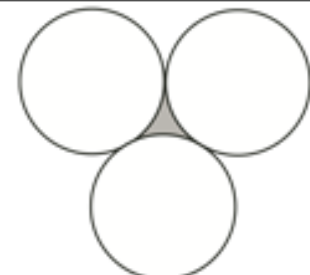
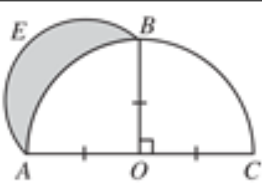
MPM 1D Name: _____



<p>1. P 2008 #4</p>	<p>In the diagram, $JLMR$ and $JKQR$ are rectangles. Also, $JR = 2$, $RQ = 3$ and $JL = 8$. What is the area of rectangle $KLMQ$?</p> <p>(A) 6 (B) 16 (C) 10 (D) 15 (E) 24</p>	
<p>2. P 2010 #6</p>	<p>Squares of side length 1 are arranged to form the figure shown. What is the perimeter of the figure?</p> <p>(A) 12 (B) 16 (C) 20 (D) 24 (E) 26</p>	
<p>3. C 1999 #8</p>	<p>In the diagram, $AD < BC$. What is the perimeter of $ABCD$?</p> <p>(A) 23 (B) 26 (C) 27 (D) 28 (E) 30</p>	
<p>4. C 2005 #9</p>	<p>$ABCD$ is a rectangle, with M the midpoint of BC and N the midpoint of CD. If $CM = 4$ and $NC = 5$, what percent of the area of the rectangle is shaded?</p> <p>(A) 70 (B) 78 (C) 80 (D) 87.5 (E) 75</p>	
<p>5. C 2008 #7</p>	<p>In the diagram, what is the perimeter of polygon $PQRST$?</p> <p>(A) 24 (B) 23 (C) 25 (D) 26 (E) 27</p>	
<p>6. C 2007 #9</p>	<p>In the diagram, the area of rectangle $ABCD$ is 40. The area of $MBCN$ is</p> <p>(A) 15 (B) 10 (C) 30 (D) 12 (E) 16</p>	
<p>7. P 2004 #11</p>	<p>In the diagram, square $ABCD$ has a side length of 4. What is the total area of the shaded regions?</p> <p>(A) 4 (B) 8 (C) 9 (D) 12 (E) 16</p>	
<p>8. C 2004 #13</p>	<p>In the diagram, a smaller square lies inside a larger square. The perimeter of the smaller square is 72 cm. The shaded area is 160 cm^2. The perimeter of the larger square, in cm, is</p> <p>(A) 58 (B) 88 (C) 116 (D) 121 (E) 112</p>	

<p>9. C 2003 #13</p>	<p>In the diagram, $ABCD$ is a square with a side length of 10. If $AY = CX = 8$, the area of the shaded region is</p> <p>(A) 16 (B) 20 (C) 40 (D) 48 (E) 24</p>	
<p>10. P 2006 #18</p>	<p>In the diagram, the grid is made up of squares. What is the area of the shaded region?</p>	
<p>11. P 2010 #19</p>	<p>In the diagram, points $U, V, W, X, Y,$ and Z lie on a straight line with $UV = VW = WX = XY = YZ = 5$. Semicircles with diameters $UZ, UV, VW, WX, XY,$ and YZ create the shape shown. What is the area of the shaded region?</p> <p>(A) $\frac{325\pi}{4}$ (B) $\frac{375\pi}{4}$ (C) $\frac{325\pi}{2}$ (D) $\frac{625\pi}{4}$ (E) $\frac{625\pi}{2}$</p>	

Some tough level 4 questions...

<p>12. P 2007 #23</p>	<p>In the diagram, two circles, each with centre D, have radii of 1 and 2. The total area of the shaded regions is $\frac{5}{12}$ of the area of the larger circle. What is a possible measure of $\angle ADC$?</p> <p>(A) 108° (B) 120° (C) 90° (D) 150° (E) 135°</p>	
<p>13. P 2006 #22</p>	<p>In the diagram, each of the three identical circles touch the other two. The circumference of each circle is 36. What is the perimeter of the shaded region?</p> <p>(A) 18 (B) 6 (C) 36 (D) 12 (E) 24</p>	
<p>14. P 2002 #24</p>	<p>In the diagram, ABC is a semi-circle with diameter AC, centre O and radius 1. Also, OB is perpendicular to AC. Using AB as a diameter, a second semi-circle AEB is drawn. The region inside this second semi-circle that lies outside the original semi-circle is shaded, as shown. The area of this shaded region is</p> <p>(A) $\frac{\pi}{4}$ (B) $\frac{1}{2}$ (C) $\frac{3\pi}{4} + \frac{1}{2}$ (D) $\frac{3}{4}$ (E) $\frac{\pi}{2} - \frac{1}{2}$</p>	

CHALLENGE – CAN YOU FIND AN EQUATION THAT CONNECTS THE FIGURE NUMBER TO THE NUMBER OF OBJECTS IN THAT FIGURE? Note: This is BEYOND the grade 9 curriculum

Figure 1



Figure 2

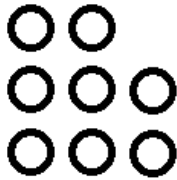


Figure 3

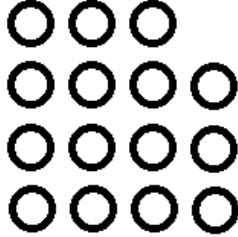


Figure 4

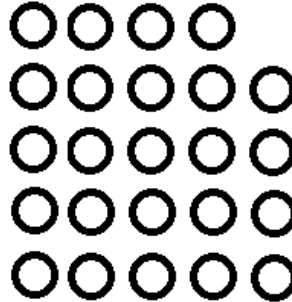


Figure 1



Figure 2



Figure 3



Figure 4



Figure 1



Figure 2



Figure 3



Figure 4

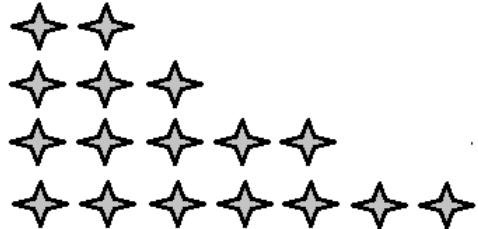


Figure 1



Figure 2



Figure 3

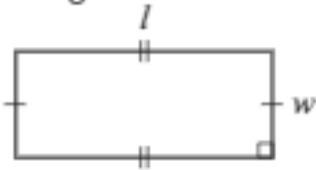
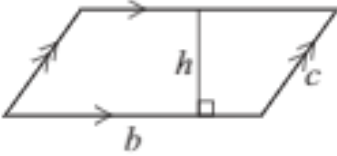
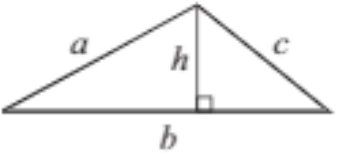
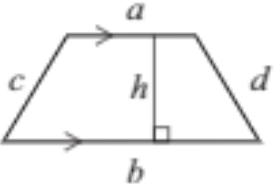
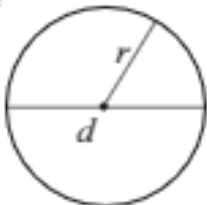


Figure 4



Formula Sheet

Grade 9 Academic

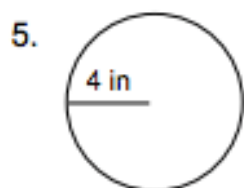
Geometric Shape	Perimeter	Area
<p>Rectangle</p> 	$P = l + l + w + w$ <p>or</p> $P = 2(l + w)$	$A = lw$
<p>Parallelogram</p> 	$P = b + b + c + c$ <p>or</p> $P = 2(b + c)$	$A = bh$
<p>Triangle</p> 	$P = a + b + c$	$A = \frac{bh}{2}$ <p>or</p> $A = \frac{1}{2}bh$
<p>Trapezoid</p> 	$P = a + b + c + d$	$A = \frac{(a + b)h}{2}$ <p>or</p> $A = \frac{1}{2}(a + b)h$
<p>Circle</p> 	$C = \pi d$ <p>or</p> $C = 2\pi r$	$A = \pi r^2$

Area, Perimeter and Circumference Review WS

Fill in each blank with the correct formula.

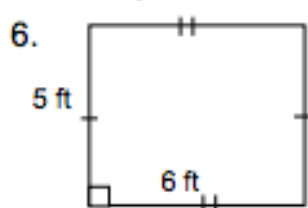
1. the area of a circle: $A =$ _____
2. the area of a triangle: $A =$ _____
3. the area of a parallelogram: $A =$ _____
4. the circumference of a circle: $C =$ _____

Find the area and perimeter (or circumference) of each figure.



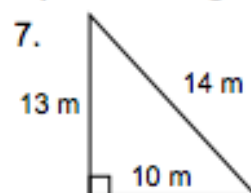
$C =$ _____

$A =$ _____



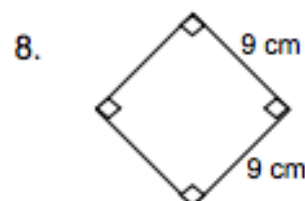
$P =$ _____

$A =$ _____



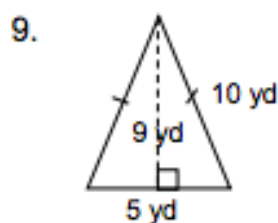
$P =$ _____

$A =$ _____



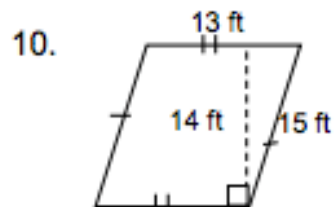
$P =$ _____

$A =$ _____



$P =$ _____

$A =$ _____



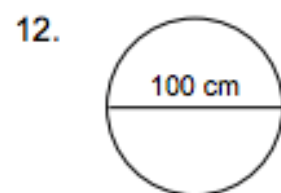
$P =$ _____

$A =$ _____



$P =$ _____

$A =$ _____



$C =$ _____

$A =$ _____

13. a circle with a radius of 12 ft.

$C =$ _____

$A =$ _____

14. a rectangle with length = 14 ft and width = 17 ft

$P =$ _____

$A =$ _____

15. a circle with a diameter of 22 yd.

$C =$ _____

$A =$ _____

16. a square with a side of 10 mm

$P =$ _____

$A =$ _____

Area, Perimeter and Circumference Review WS A

17. Janet is making a frame for an 8-inch by 10-inch photo. How much wood does she need for the frame?
18. The diameter of a quarter is 24 mm. What is the quarter's circumference?
19. The floor of our livingroom is 50 feet by 75 feet. What is the area of our floor?
20. Each tire on your car has a diameter of 26 inches. About how far will you travel when the tires make one complete revolution?
21. Michelle is covering a rectangular table with small square tiles. It will take 32 rows of tiles with 48 tiles in each row. How many tiles are needed to cover the table?
26. Nala makes a rectangular rug that has an area of 300 square inches and a width of 15 inches. What is the length of the rug?
27. What is the total length of weather stripping needed for 12 windows that each measure 90 cm by 12 cm?
28. The radius of a tire is 1.2 feet. How far will you travel after ten complete rotations of the tire?
29. A car tire rim has a diameter of 24.5 inches, and the tire is 2.25 inches thick. Find the circumference of the outside of the tire.
30. You ride a Ferris wheel that has a circumference of 108 feet. Estimate the diameter of the Ferris wheel.
31. A park is 300 yds by 500 yds. There is a 4 wide foot walking path going around the entire perimeter of the park. The rest of the park is green space. How much green space is there in the park?