

**MPM1D – Solving Equations**

Name: \_\_\_\_\_

SOLVE EACH OF THE FOLLOWING. SHOW YOUR STEPS.

PART 1

1.  $2x - 3 = 1$

6.  $4 = 4x + 4$

2.  $2x + 2 = 6$

7.  $-3 = 3 - 2x$

3.  $4 + 3x = 1$

8.  $-3x - 3 = 0$

4.  $-5 = 4x - 1$

9.  $5 = -2 - x$

5.  $2 + 3x = -4$

10.  $0 = 4 + 2x$

PART 2

11.  $3x - 1 = x + 1$

16.  $3 + 2x = 5 + x$

12.  $4x + 1 = 2x + 3$

17.  $-2x - 1 = x + 5$

13.  $2 + 3x = 1x - 4$

18.  $-x + 2 - 2x = x + 6$

14.  $-2x + 1 = -4 + 3x$

19.  $0 = 2x - 4 + x + 1$

15.  $-4 + x = 3x + 2$

20.  $3x - 1 + x = 2x + 5$

PART 3 – Try these. You can use algebra tiles if you want, but...

21.  $3000 + 2000x = 5000 + 1000x$

26.  $4.5x + 23 = 5 + 2.5x$

22.  $14x + 82 = 46 + 8x$

27.  $-20 + 5x = 3x - 50$

23.  $-9x - 19 = 5 + 3x$

28.  $7.5x - 20 = 2.5x + 30$

24.  $65 - x = 4x - 20$

29.  $245x + 40 + 6x = 35 + 17x + 5$

25.  $7x - 8 = 12 - x$

30.  $5x + 11 - 3x = -2x + 6$

PART 4 – Expand (get rid of brackets) and simplify, then solve. Show your steps.

31.  $2(x+1) = 4$

35.  $2(2x+1) = -3(x-2) - 4$

32.  $-2x + 3(x-1) = 1$

36.  $-(x-2) + 2(2x-3) = -2(1+x) + 3$

33.  $2x + 2 = 4(x-1)$

37.  $4(1-x) = 2 - (x-3)$

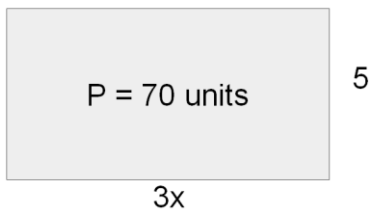
34.  $-2(x+3) - (x-3) = 0$

38.  $-(3-2x) - (x-1) - (2+3x) = 2$

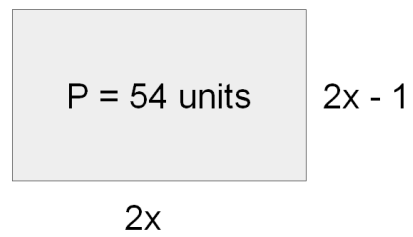
### Solving Equations – Perimeter and Area models

Determine the value of  $x$  in each case. Show your work.

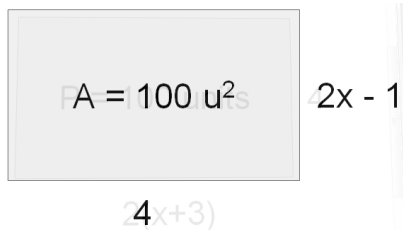
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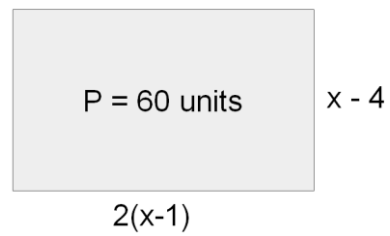
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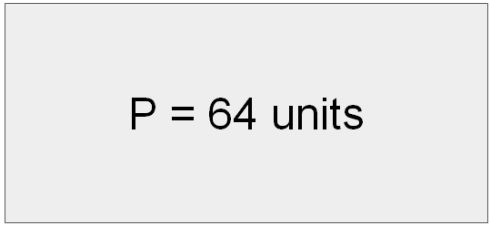
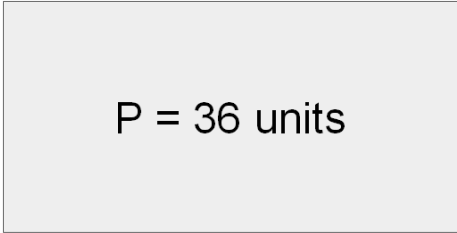
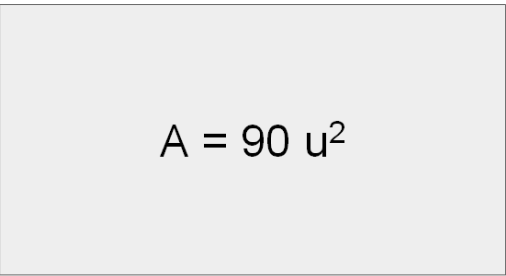
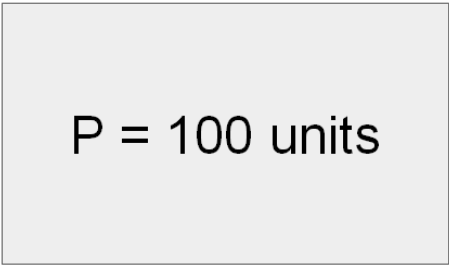
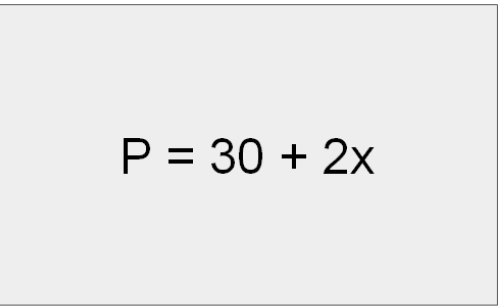
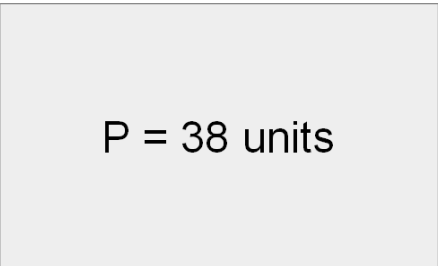
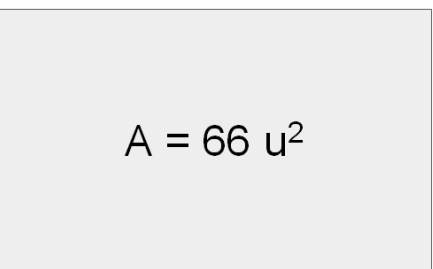
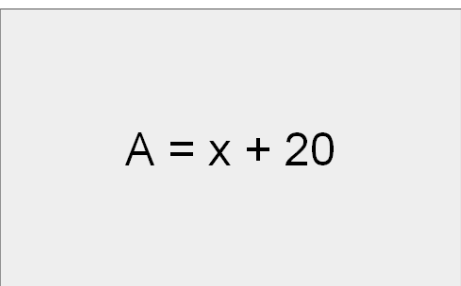
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**Solving Equations – Perimeter and Area (practice)**

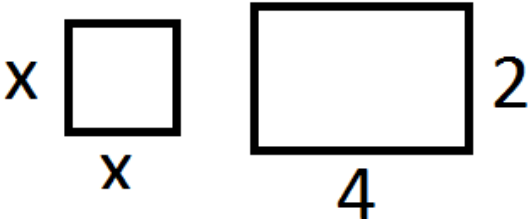
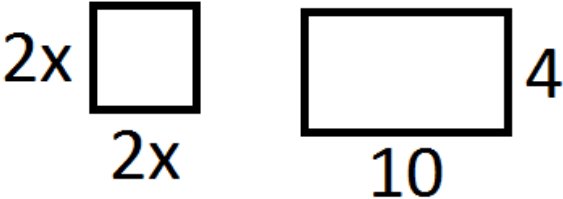
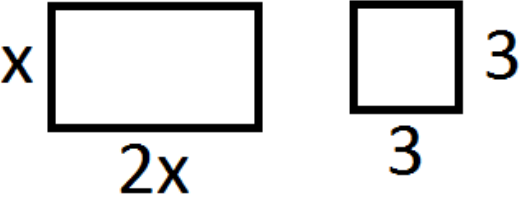
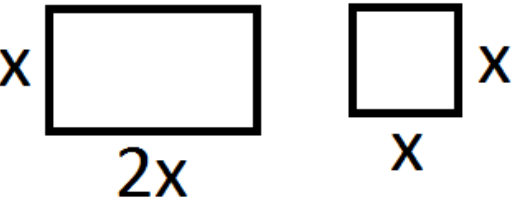
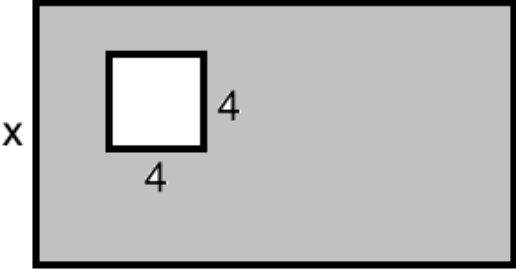
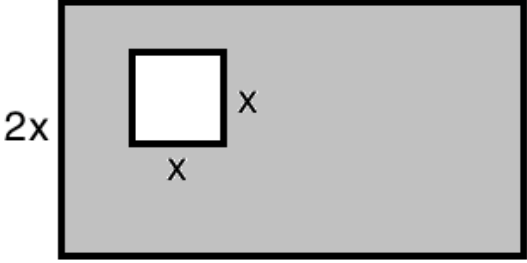
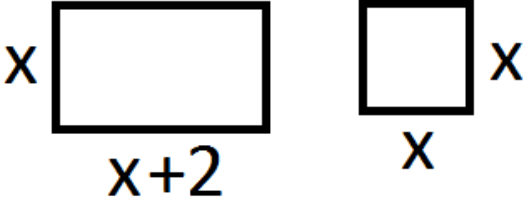
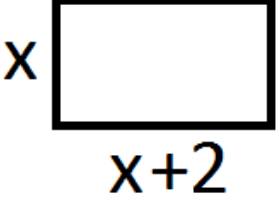
Name: \_\_\_\_\_

Determine the value of  $x$  in each case. Show your work. Use a separate paper.

1.  <p><math>P = 64</math> units</p> <p><math>2x</math></p> <p><math>x</math></p>	2.  <p><math>P = 36</math> units</p> <p><math>3x</math></p> <p><math>x + 2</math></p>
3.  <p><math>A = 90</math> <math>u^2</math></p> <p><math>5x</math></p> <p><math>3</math></p>	4.  <p><math>P = 100</math> units</p> <p><math>2(x+3)</math></p> <p><math>4</math></p>
5.  <p><math>P = 30 + 2x</math></p> <p><math>2x+4</math></p> <p><math>3</math></p>	6.  <p><math>P = 38</math> units</p> <p><math>3(x-1)</math></p> <p><math>2(x+1)</math></p>
7.  <p><math>A = 66</math> <math>u^2</math></p> <p><math>3(x+1)</math></p> <p><math>2</math></p>	8.  <p><math>A = x + 20</math></p> <p><math>3x+1</math></p> <p><math>x</math></p>

**Supplemental Problems - Solving Equations With Perimeter and Area**

The TOTAL area of the shapes is given. Find the value of x in each case.

<p>1.</p>  <p><math>A = 28 \text{ cm}^2</math></p>	<p>2.</p>  <p><math>A = 100 \text{ cm}^2</math></p>
<p>3.</p>  <p><math>A = 125 \text{ cm}^2</math></p>	<p>4.</p>  <p><math>A = 1250 \text{ cm}^2</math></p>
<p>5.</p>  <p>Shaded area = <math>40 \text{ cm}^2</math></p>	<p>6.</p>  <p>Shaded area = <math>80 \text{ cm}^2</math></p>
<p>7.</p>  <p><math>A = 2x + 50 \text{ cm}^2</math></p>	<p>8.</p>  <p><math>A = 200 \text{ cm}^2</math></p>

**MPM1D:  $y = mx + b$  Examples**

Name: \_\_\_\_\_

Determine the equation of each line shown below.

a) y-intercept:                      slope =  $\frac{\text{rise}}{\text{run}} =$

equation:

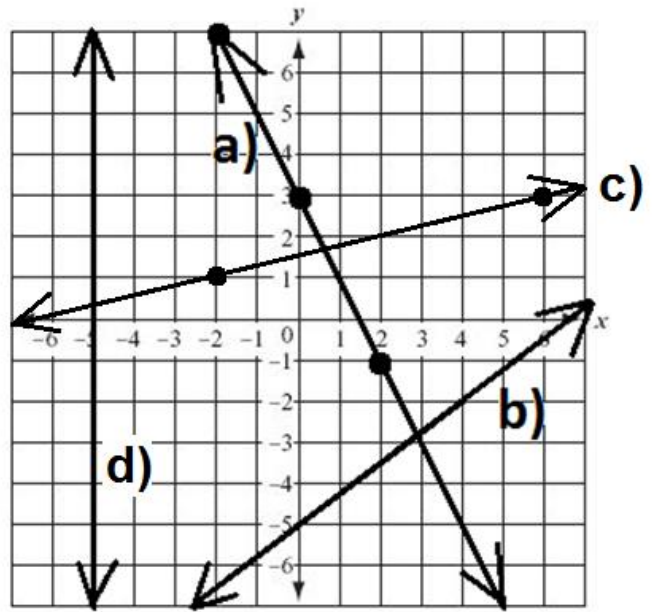
b) y-intercept:                      slope =  $\frac{\text{rise}}{\text{run}} =$

equation:

c) y-intercept:                      slope =  $\frac{\text{rise}}{\text{run}} =$

equation:

d) equation:



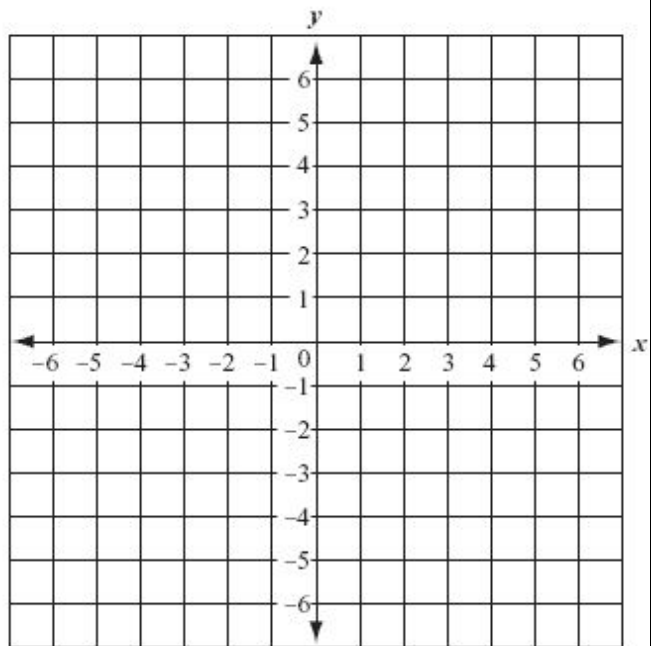
Graph and label the following lines on the grid.

a)  $y = \frac{2}{3}x - 5$

b)  $y = -\frac{1}{2}x + 4$

c)  $y = 3x - 1$

d)  $y = 6$

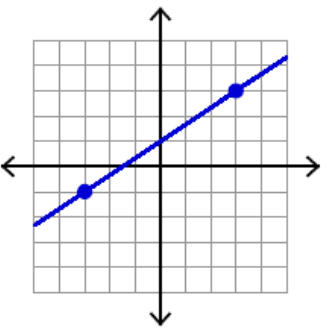
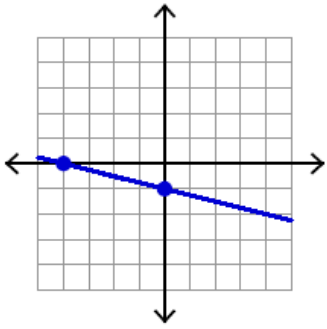
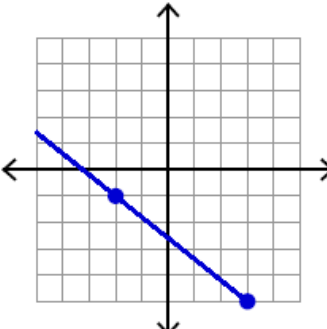
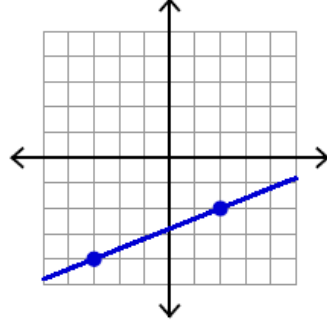
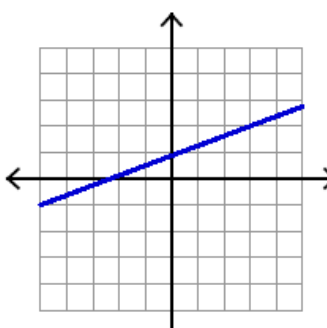
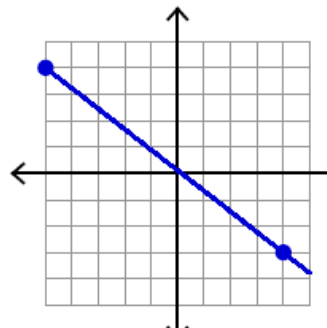
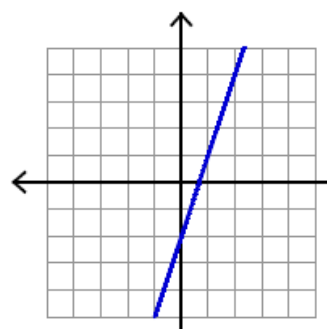
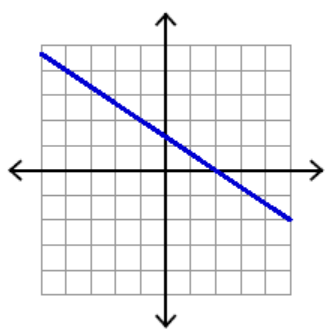




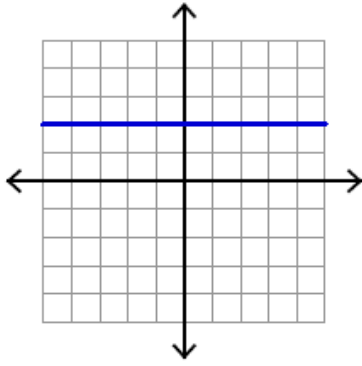
**MPM 1D – Graphs and Equations of Lines**

Name: \_\_\_\_\_

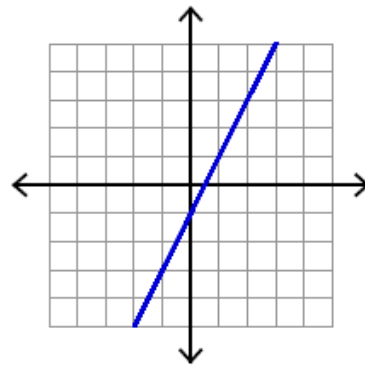
Find the equation of each line in either the form  $y = mx + b$  or  $y = a + bx$ .  
 In both cases, you will need the slope and y-intercept.

<p>1.</p> 	<p>2.</p> 
<p>3.</p> 	<p>4.</p> 
<p>5.</p> 	<p>6.</p> 
<p>7.</p> 	<p>8.</p> 

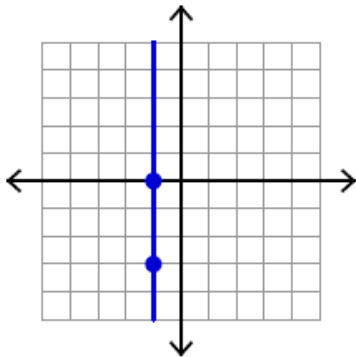
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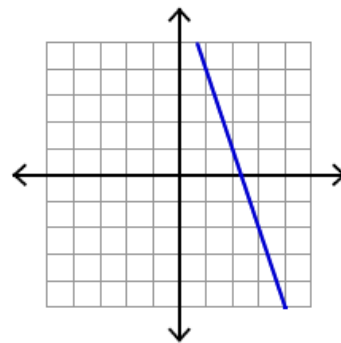
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11.

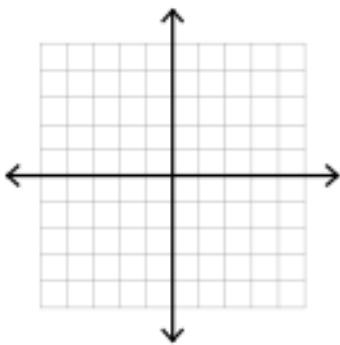


12.

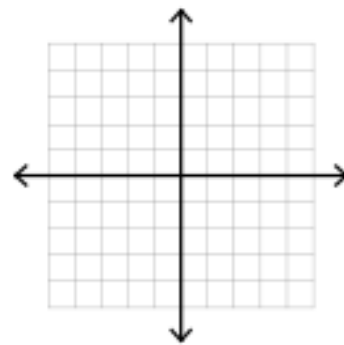


Graph each line. Start with the y-intercept, then use the slope to find other points.

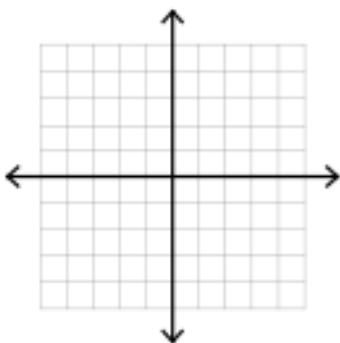
13.  $y = \frac{2}{3}x + 1$



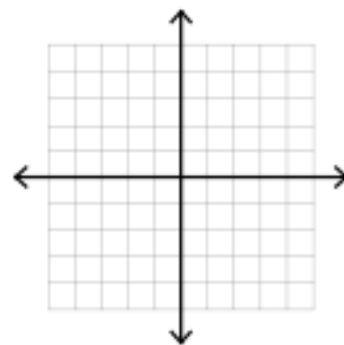
14.  $y = \frac{1}{2}x - 3$



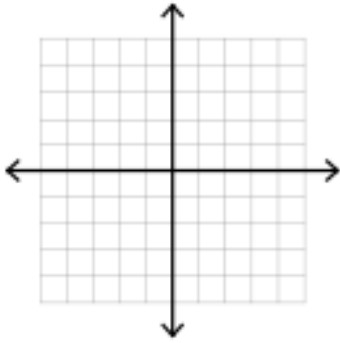
15.  $y = 2 + \frac{1}{2}x$



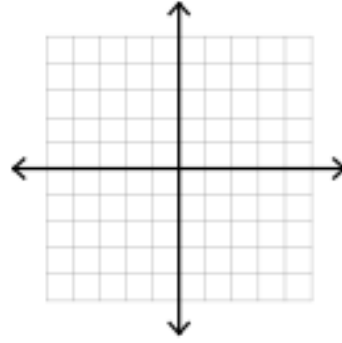
16.  $y = -3 + 2x$



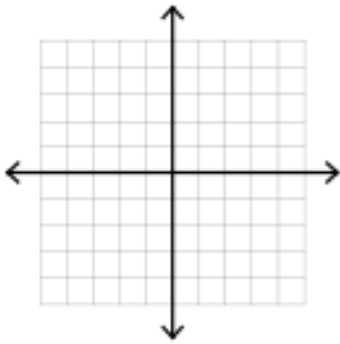
17.  $y = \frac{4}{3}x$



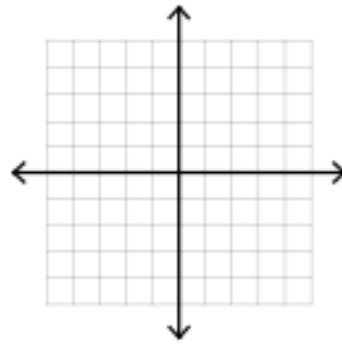
18.  $y = 3x + 2$



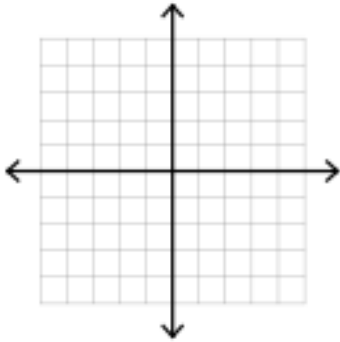
19.  $y = -\frac{1}{4}x - 3$



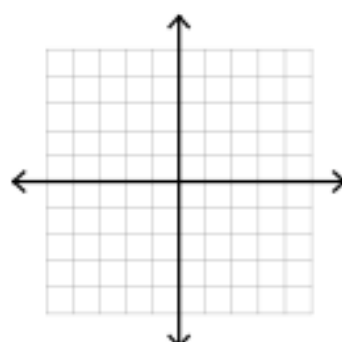
20.  $y = -\frac{3}{2}x + 1$



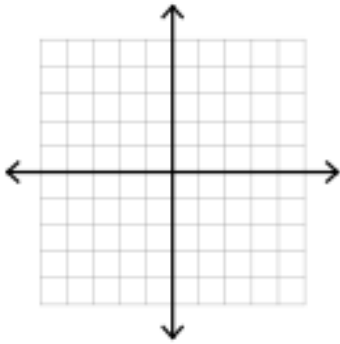
21.  $x = -2$



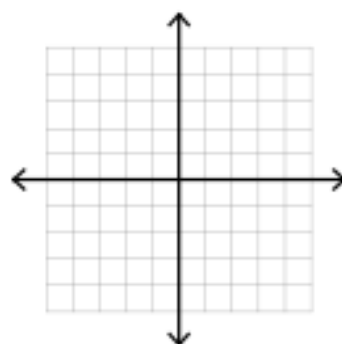
22.  $y = 3$



23.  $y = -3x - 2$

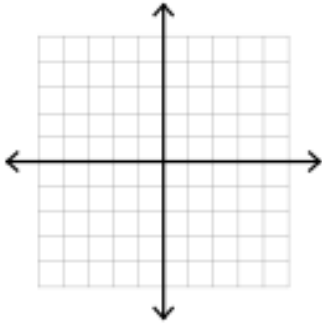


24.  $y = x - 3$



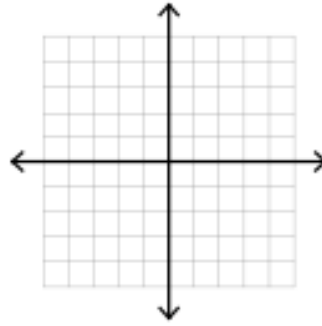
Find the equation of a line that:

25. Has a y-intercept of 2, and passes through the point (2,3)

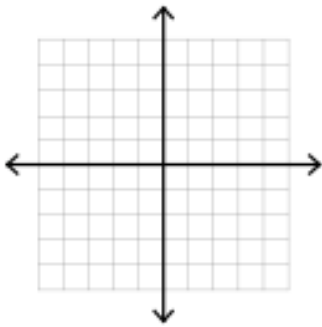


26. Has a y-intercept of 1, and passes through the point (1, 2)

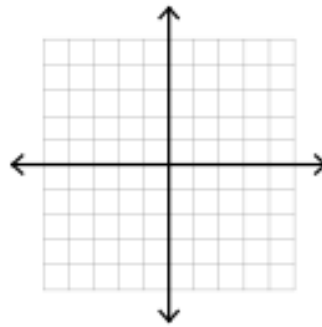
$$\text{slope} = m = \frac{\text{rise}}{\text{run}} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{\Delta y}{\Delta x}$$



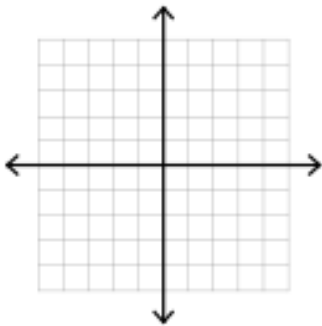
27. Has a slope of  $\frac{3}{4}$ , and passes through the point (-4, 1)



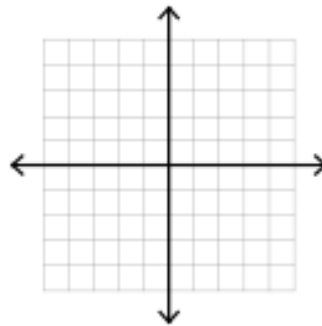
28. Has a slope of  $-\frac{1}{2}$ , and passes through the point (3, -2)



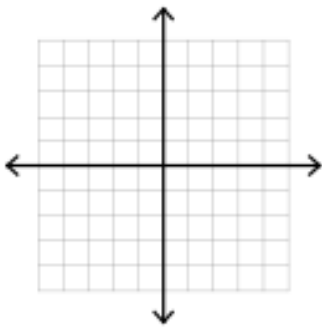
29. Has a slope of 3, and passes through the point (2, 5)



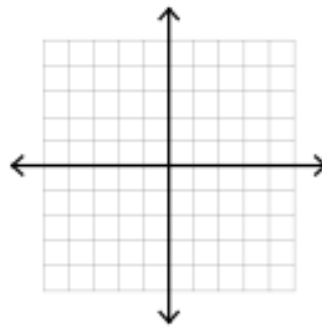
30. Passes through points (-2, 1) and (2, 3)



31. Passes through the points (1, 2) and (3, -4)



32. Passes through the points (1, 4) and (8, 18)



**Understanding Checkpoint – Analytic Geometry**

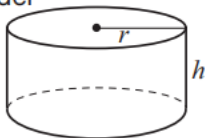
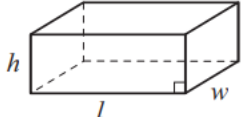
Name: \_\_\_\_\_

**Give the equation of a line that...**

1. has a slope of  $\frac{2}{3}$  \_\_\_\_\_
2. has a y-intercept of 6 \_\_\_\_\_
3. is increasing \_\_\_\_\_
4. is decreasing \_\_\_\_\_
5. is a vertical line \_\_\_\_\_
6. is a horizontal line \_\_\_\_\_
7. is steeper than  $y = -2x + 3$  \_\_\_\_\_
8. is less steep than  $y = \frac{2}{3}x + 3$  \_\_\_\_\_
9. goes in the opposite direction to  $y = -x + 3$  \_\_\_\_\_
10. is steeper than  $y = x - 2$  but less steep than  $y = 2x - 5$  \_\_\_\_\_
11. crosses the y axis between  $y = 0.2x + 11$  and  $y = 3x + 5$  \_\_\_\_\_
12. goes through the origin \_\_\_\_\_
13. is horizontal and does not go through the origin \_\_\_\_\_
14. is steep, is increasing, and has a small y-intercept \_\_\_\_\_
15. is not steep, crosses high on the y axis and goes in the opposite direction of  $y = 2x - 5$  \_\_\_\_\_
16. is a horizontal line with the same y-intercept as  $y = \frac{2}{3}x + 3$  \_\_\_\_\_
17. is a vertical line that passes through the point (1, 4) \_\_\_\_\_
18. is steeper than  $y = -\frac{1}{2}x + 2$  and passes through the origin \_\_\_\_\_
19. has the same slope as  $y = 3x - 5$  and a y-intercept of 6 \_\_\_\_\_
20. is perpendicular to  $y = 4$  \_\_\_\_\_
21. passes through the points (2, 4) and (4, 5) \_\_\_\_\_

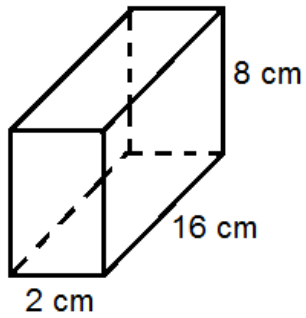
**MPM1D – Calculating Volume and Surface Area**

Name: \_\_\_\_\_

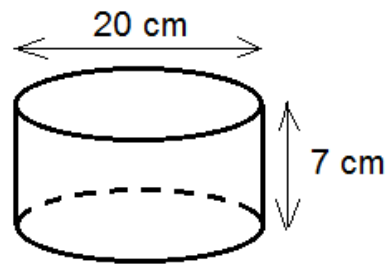
Geometric Figure	Surface Area	Volume
Cylinder 	$A_{\text{base}} = \pi r^2$ $A_{\text{lateral surface}} = 2\pi r h$ $A_{\text{total}} = 2A_{\text{base}} + A_{\text{lateral surface}}$ $= 2\pi r^2 + 2\pi r h$	$V = (A_{\text{base}})(\text{height})$ $V = \pi r^2 h$
Rectangular prism 	$A = 2(wh + lw + lh)$	$V = (A_{\text{base}})(\text{height})$ $V = lwh$

Calculate the surface area and volume of the following shapes. Show your work.

a)



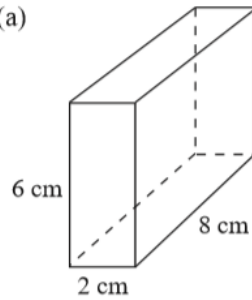
b)



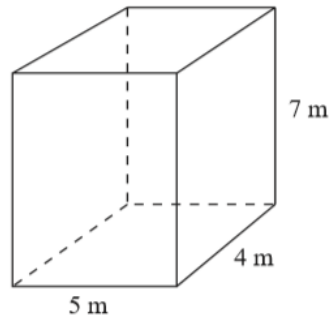
**Work on a separate piece of paper.**

1. Calculate the *volume* and *surface area* of each of the following cuboids:

(a)

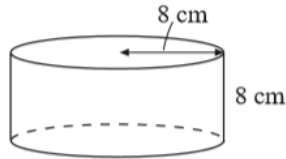


(b)

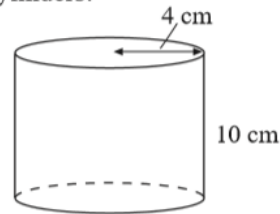


2. Giving your answers correct to 3 significant figures, calculate the *volume* and *total surface area* of each of the following cylinders:

(a)

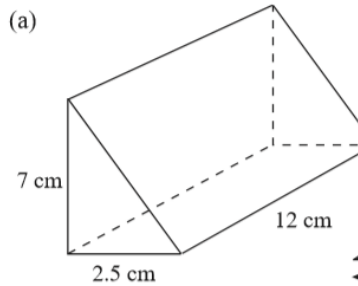


(b)

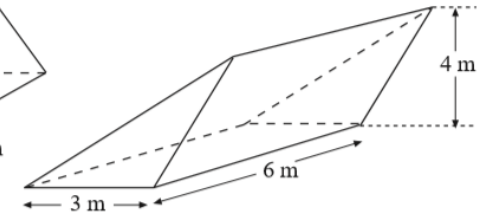


3. Calculate the *volume* of each of the following prisms:

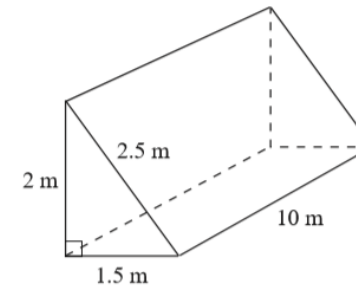
(a)



(b)

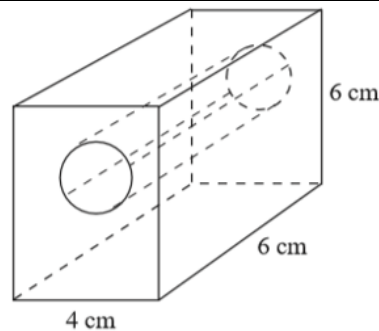


4. Calculate the *volume* and *surface area* of the following prism:



5. The diagram shows a wooden block that has had a hole drilled in it. The diameter of the hole is 2 cm.

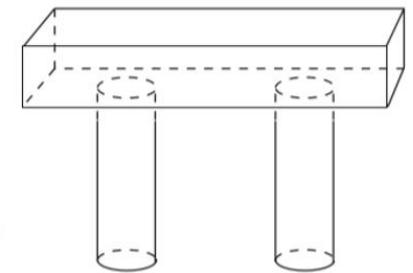
Calculate the *volume* of this solid, giving your answer correct to 2 decimal places.



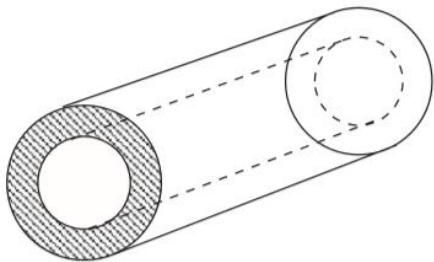
6. A concrete beam is to rest on two concrete pillars. The beam is a cuboid with sides of length 0.5 m, 3 m and 0.4 m.

The pillars have diameter 0.4 m and height 2 m.

Calculate the *total volume* of concrete needed to make the beam and the pillars. Round your answer to a sensible level of accuracy.

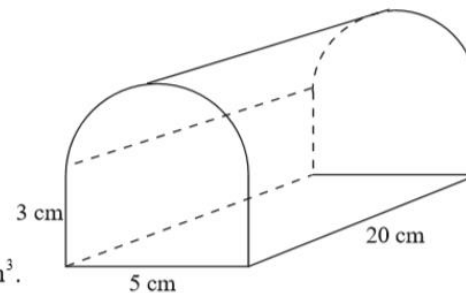


7. The diagram shows the cross-section of a pipe of length 50 cm. The inner diameter of the pipe is 20 cm and the outer diameter is 30 cm.



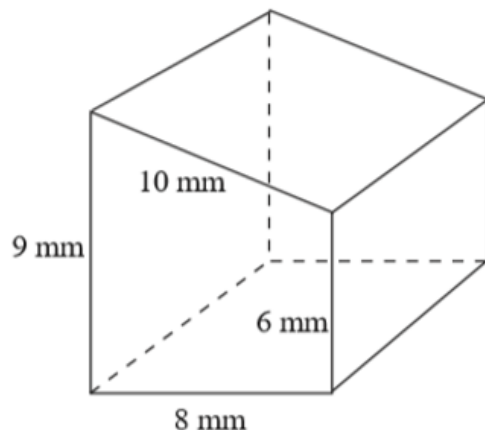
- (a) Calculate the *volume* of metal needed to make the pipe. Round your answer to a sensible level of accuracy.
- (b) Calculate the *total surface area* of the pipe, including the inside surface. Round your answer to a sensible level of accuracy.

8. The diagram shows a prism. The cross-section of the prism consists of a rectangle and a semicircle.



- (a) Calculate the *volume* of the prism. Give your answer to the nearest  $\text{cm}^3$ .
- (b) Calculate the *total surface area* of the prism. Give your answer to the nearest  $\text{cm}^2$ .

9. The volume of the prism shown is  $720 \text{ mm}^3$ .



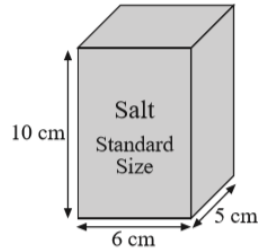
- (a) Determine the *length* of the prism.
- (b) Calculate the *surface area* of the prism.

10. A cylinder has a diameter of 12 cm and a curved surface area of  $132\pi$  or  $415 \text{ cm}^2$  (to 3 significant figures).

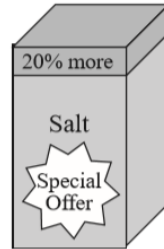
- (a) Determine the *height* of the cylinder.
- (b) Calculate the *volume* of the cylinder, giving your answer to the nearest  $\text{cm}^3$ .



12. (a) What is the volume of this *standard size* box of salt?



- (b) What is the volume of this *special offer* box of salt, which is 20% bigger?



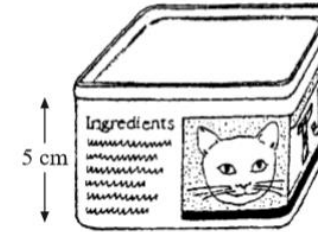
The standard size box contains enough salt to fill up 10 salt pots.



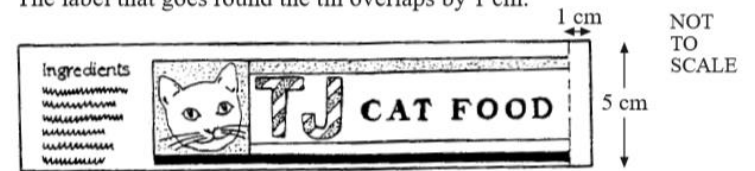
- (c) How many salt pots may be filled up from the *special offer* box of salt?

(KS3/96/Ma/Tier 5-7/P2)

14. TJ's Cat Food is sold in tins shaped like this. Each tin has an internal height of 5 cm.



- (a) The area of the lid of the tin is  $35 \text{ cm}^2$ .  
Work out the volume of cat food that the tin contains.
- (b) The label that goes round the tin overlaps by 1 cm.



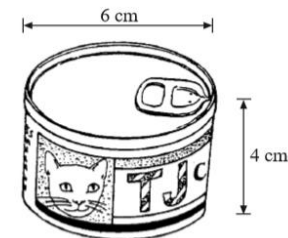
The area of the label is  $134 \text{ cm}^2$ .

Work out the distance around the tin.

Show your working.

TJ's Cat Food plans to use tins that are the shape of cylinders.

The internal measurements of a tin are shown.

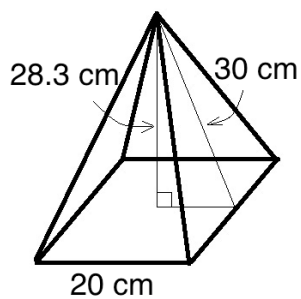


- (c) Work out the volume of cat food that the tin contains.  
Show your working.

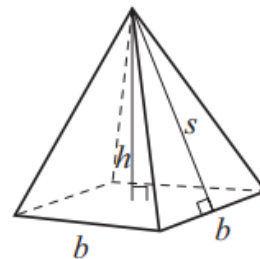
(KS3/95/Ma/Levels 5-7/P2)

### MPM1D – Pyramids Practice

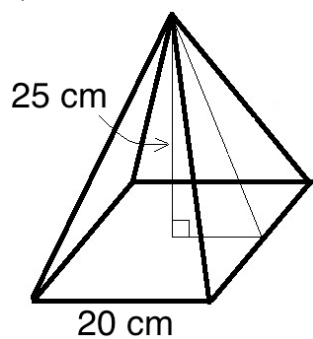
1. Calculate the surface area and volume of the pyramid.  
Use the formulas to the right. Show your work.



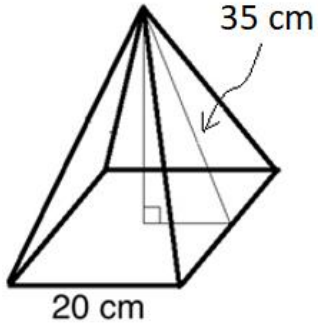
$$V = \frac{b^2 h}{3}$$
$$SA = b^2 + 4 \frac{bs}{2}$$



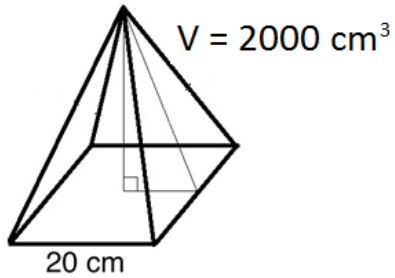
2. a) Use the base and height of the pyramid to find the slant height. Show your work.  
b) Calculate the surface area of the pyramid. Show your work.



3. a) Use the slant height and base to find the height of the square-based pyramid. Show your work  
b) Calculate volume of the pyramid. Show your work.

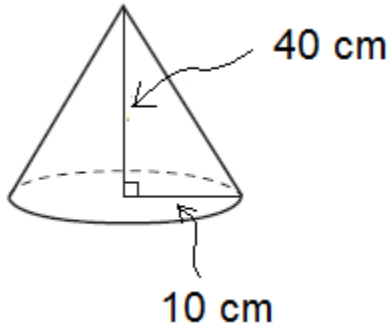


4. CHALLENGE QUESTION... A square-based pyramid has a volume of  $2000 \text{ cm}^3$ , and the length of its base is 20 cm. What is the surface area of this pyramid?



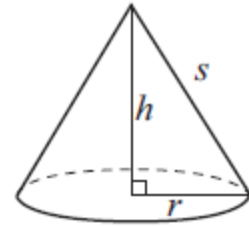
### MPM1D – Cones Practice

1. a) Calculate the volume of the cone. Show your work  
b) Use the radius and height to find the slant height of the cone  
c) Calculate the surface area of the cone. Show your work.

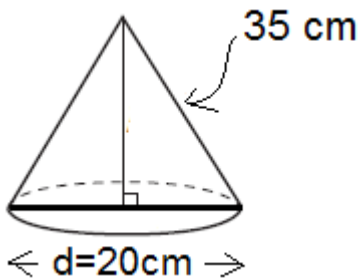


$$V = \frac{\pi r^2 h}{3}$$

surface area =  $\pi r s + \pi r^2$

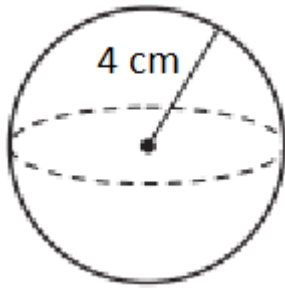


2. Use the slant height and radius to calculate the height of the cone. Show your work.  
b) Calculate the volume of the cone.



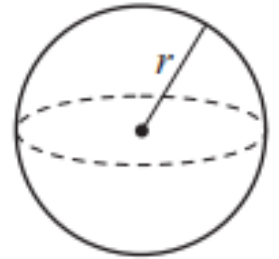
## MPM1D – Spheres Practice

1. a) Calculate the surface area and volume of the sphere. Show your work.

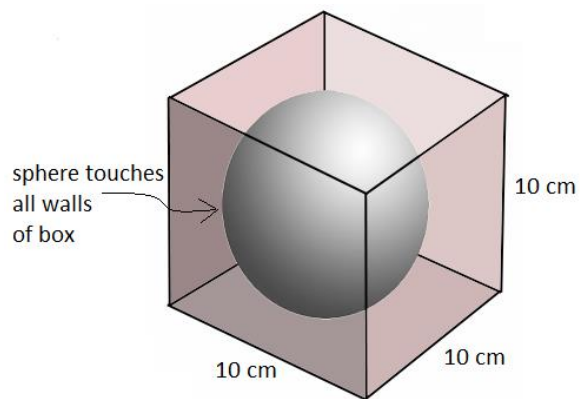


$$V = \frac{4\pi r^3}{3}$$

$$SA = 4\pi r^2$$



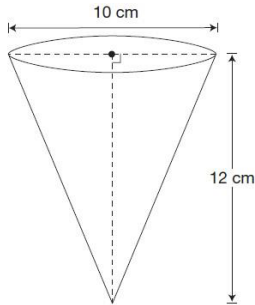
2. a) A sphere fits tightly into a box. What is the volume of the sphere?  
b) How much air is in the box? Show your work.



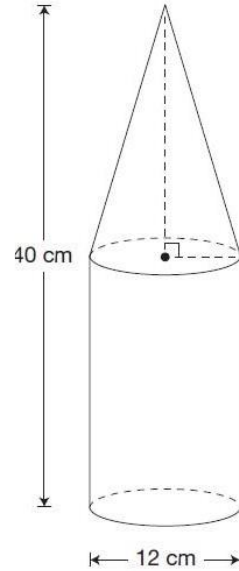
# MPM1D – Surface Area & Volume Problems

Name: \_\_\_\_\_

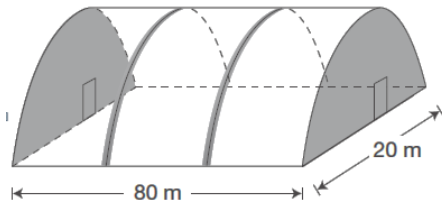
1. Calculate the surface area and volume of the cone in the diagram.



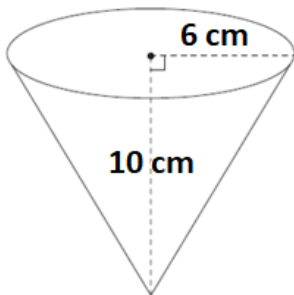
2. A container is made up of a cone and a cylinder. The cone and cylinder in the diagram below have the same height. What is the volume of the container?



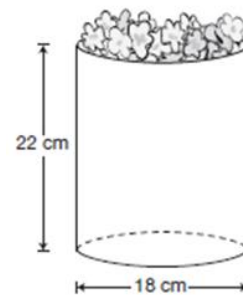
3. The diagram shows a greenhouse that is built in the shape of a half-cylinder. Material to cover the roof costs \$3/m<sup>2</sup>. The shaded ends are not covered. What is the cost to cover the roof?



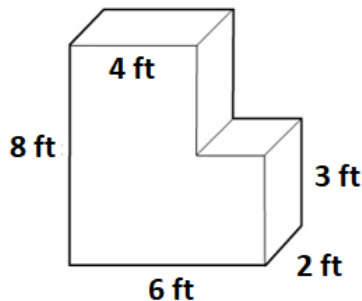
4. An ice cream store makes an ice cream cone as shown in the diagram. The cone is open topped, and the entire outside is coated in chocolate. Find the surface area that is coated in chocolate.



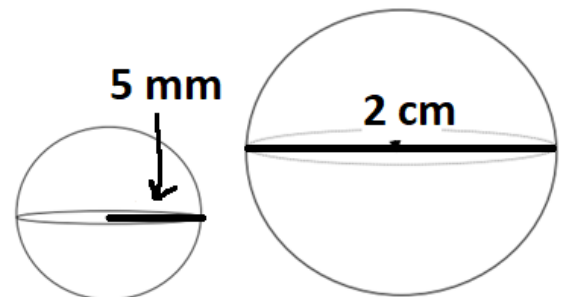
5. Paper is used to make a popcorn container in the shape of an open-topped cylinder. Calculate the amount of paper needed to make the container.



6. Calculate the volume of the figure shown in the diagram.



7. How many times bigger is the volume of the bigger sphere?



## Measurement – Problem Solving

- The diameter of a tennis ball is 6.7 cm.  
Assuming the 3 balls shown in the picture fit tightly in the canister, determine
  - the amount of empty space in the container
- The tank of a truck is in the shape of a cylinder, with a half sphere on both ends. The entire tank (including the half spheres) is 5.0 m long.  
 $1\text{m}^3 = 1000\text{L}$ 
  - Draw a diagram showing the shapes you will use to calculate the volume (with dimensions)
  - How many  $\text{m}^3$  of propane can the tank hold?
  - How many square meters of metal is needed to make the tank?
  - If a BBQ tank holds 20 L of propane, how many BBQ tanks can this truck fill?

b) the surface area of the container

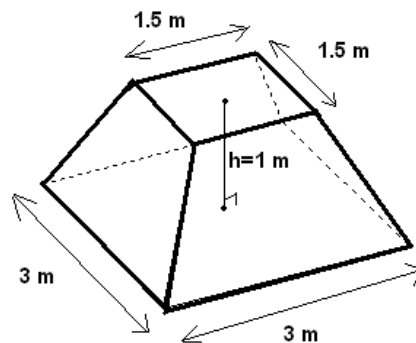


- A child's playhouse is made up of a square-based prism with a pyramid-shaped roof. Assuming there is a floor but no other interior walls or ceilings, how many pieces of cardboard (each measuring  $1.4\text{m} \times 1.4\text{m}$ ) are required to make the house?
  - Suppose you have a maximum of 34 square meters of cardboard to work with. You wish to keep the floor area and height of the walls the same as the diagram, but you are willing to alter the height of the roof pyramid. What is the maximum height of the roof pyramid that you can construct out of your available cardboard.



paint covers  $5\text{m}^2$  and you wish to apply 3 coats of paint  
e) the total cost of all the materials (paint and concrete) for this project if a can of paint costs \$6.50.

- A frustum is a pyramid that has had its top chopped off; the large concrete frustum in the diagram is now half of its original height (ie. the original pyramid had a height of 2m). As the manufacturer of the frustum you need to determine
  - the volume of concrete required
  - the total surface area of the frustum (including the underside)
  - the total cost if concrete costs  $\$40/\text{m}^3$
  - how many cans of paint you need if one can of



<p><b>ANSWERS SOLVING EQUATION P. 1, 2, 3, 4</b></p> <table> <tr> <td>1. <math>x = 2</math></td> <td>14. <math>x = 1</math></td> <td>27. <math>x = -15</math></td> </tr> <tr> <td>2. <math>x = 2</math></td> <td>15. <math>x = -3</math></td> <td>28. <math>x = 10</math></td> </tr> <tr> <td>3. <math>x = -1</math></td> <td>16. <math>x = 2</math></td> <td>29. <math>x = 0</math></td> </tr> <tr> <td>4. <math>x = -1</math></td> <td>17. <math>x = -2</math></td> <td>30. <math>x = -1.25</math></td> </tr> <tr> <td>5. <math>x = -2</math></td> <td>18. <math>x = -1</math></td> <td>31. <math>x = 1</math></td> </tr> <tr> <td>6. <math>x = 0</math></td> <td>19. <math>x = 1</math></td> <td>32. <math>x = 4</math></td> </tr> <tr> <td>7. <math>x = 3</math></td> <td>20. <math>x = 3</math></td> <td>33. <math>x = 3</math></td> </tr> <tr> <td>8. <math>x = -1</math></td> <td>21. <math>x = 2</math></td> <td>34. <math>x = -1</math></td> </tr> <tr> <td>9. <math>x = -7</math></td> <td>22. <math>x = -6</math></td> <td>35. <math>x = 0</math></td> </tr> <tr> <td>10. <math>x = -2</math></td> <td>23. <math>x = -2</math></td> <td>36. <math>x = 1</math></td> </tr> <tr> <td>11. <math>x = 1</math></td> <td>24. <math>x = 17</math></td> <td>37. <math>x = -\frac{1}{3}</math></td> </tr> <tr> <td>12. <math>x = 1</math></td> <td>25. <math>x = 2.5</math></td> <td>38. <math>x = -3</math></td> </tr> <tr> <td>13. <math>x = -3</math></td> <td>26. <math>x = -9</math></td> <td></td> </tr> </table>	1. $x = 2$	14. $x = 1$	27. $x = -15$	2. $x = 2$	15. $x = -3$	28. $x = 10$	3. $x = -1$	16. $x = 2$	29. $x = 0$	4. $x = -1$	17. $x = -2$	30. $x = -1.25$	5. $x = -2$	18. $x = -1$	31. $x = 1$	6. $x = 0$	19. $x = 1$	32. $x = 4$	7. $x = 3$	20. $x = 3$	33. $x = 3$	8. $x = -1$	21. $x = 2$	34. $x = -1$	9. $x = -7$	22. $x = -6$	35. $x = 0$	10. $x = -2$	23. $x = -2$	36. $x = 1$	11. $x = 1$	24. $x = 17$	37. $x = -\frac{1}{3}$	12. $x = 1$	25. $x = 2.5$	38. $x = -3$	13. $x = -3$	26. $x = -9$		<p><b>ANSWERS PERIMETER AREA PRACTICE p. 6</b></p> <table border="1"> <tr> <td>1. <math>x = 10.66</math> units</td> <td>2. <math>x = 4</math> units</td> </tr> <tr> <td>3. <math>x = 6</math> units</td> <td>4. <math>x = 20</math> units</td> </tr> <tr> <td>5. <math>x = 8</math> units</td> <td>6. <math>x = 4</math> units</td> </tr> <tr> <td>7. <math>x = 10</math> units</td> <td>8. <math>x = 2.6</math> units</td> </tr> </table> <p><b>ANSWERS PERIMETER AREA SUPPLEMENTAL p. 7</b></p> <table border="1"> <tr> <td>1.X = 4.5</td> <td>2.X = 3.9</td> <td>3.X = 7.6</td> <td>4.X = 20.4</td> </tr> <tr> <td>5.X = 5.3</td> <td>6.X = 3.0</td> <td>7.X = 5</td> <td>8.X = 13.2</td> </tr> </table>	1. $x = 10.66$ units	2. $x = 4$ units	3. $x = 6$ units	4. $x = 20$ units	5. $x = 8$ units	6. $x = 4$ units	7. $x = 10$ units	8. $x = 2.6$ units	1.X = 4.5	2.X = 3.9	3.X = 7.6	4.X = 20.4	5.X = 5.3	6.X = 3.0	7.X = 5	8.X = 13.2
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<p><b>ANSWER TO GRAPHING LINES (p. 9-12)</b> Can be found at <a href="#">this link</a> or in weekly planner</p>	<p>p. 14 Prisms will follow via weekly planner</p>																																																							
<p><b>Prisms p. 15, 16, 17</b></p> <table border="1"> <tr> <td>1a) 96 cm<sup>3</sup>, 152 cm<sup>2</sup></td> <td>2a) 1610 cm<sup>3</sup>, 804 cm<sup>2</sup></td> </tr> <tr> <td>b) 140 m<sup>3</sup>, 166 m<sup>2</sup></td> <td>b) 503 cm<sup>3</sup>, 352 cm<sup>2</sup></td> </tr> <tr> <td>3a) 105 cm<sup>3</sup> b) 36 m<sup>3</sup></td> <td>4) 15 m<sup>3</sup>, 63 m<sup>2</sup></td> </tr> <tr> <td>5) 125.1 cm<sup>3</sup></td> <td>6) 1.1 m<sup>3</sup></td> </tr> <tr> <td>7a) 19600 cm<sup>3</sup> b) 8640 cm<sup>2</sup></td> <td>8a) 496 cm<sup>3</sup> b) 427 cm<sup>2</sup></td> </tr> <tr> <td>9a) 12 mm b) 516 mm<sup>2</sup></td> <td>10a) 11 cm b) 1244 cm<sup>3</sup></td> </tr> <tr> <td>12a) 300 cm<sup>3</sup> b) 360 cm<sup>3</sup> c) 12 pots</td> <td>14a) 175 cm<sup>3</sup> b) 25.8 cm c) 113 cm<sup>3</sup></td> </tr> </table>	1a) 96 cm <sup>3</sup> , 152 cm <sup>2</sup>	2a) 1610 cm <sup>3</sup> , 804 cm <sup>2</sup>	b) 140 m <sup>3</sup> , 166 m <sup>2</sup>	b) 503 cm <sup>3</sup> , 352 cm <sup>2</sup>	3a) 105 cm <sup>3</sup> b) 36 m <sup>3</sup>	4) 15 m <sup>3</sup> , 63 m <sup>2</sup>	5) 125.1 cm <sup>3</sup>	6) 1.1 m <sup>3</sup>	7a) 19600 cm <sup>3</sup> b) 8640 cm <sup>2</sup>	8a) 496 cm <sup>3</sup> b) 427 cm <sup>2</sup>	9a) 12 mm b) 516 mm <sup>2</sup>	10a) 11 cm b) 1244 cm <sup>3</sup>	12a) 300 cm <sup>3</sup> b) 360 cm <sup>3</sup> c) 12 pots	14a) 175 cm <sup>3</sup> b) 25.8 cm c) 113 cm <sup>3</sup>	<p>Pyramids, Cones, Spheres p. 18, 19, 20, 21</p> <p>will follow via weekly planner</p>																																									
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<p><b>SURFACE AREA VOLUME PROBLEMS p. 22</b></p> <p><b>ANSWERS TO WORKSHEET</b></p> <table border="1"> <tr> <td>1. V=314.2 cm<sup>3</sup> SA = 282.7cm<sup>2</sup></td> <td>2. V=3015.9cm<sup>3</sup></td> </tr> <tr> <td>3. \$7539.82</td> <td>4. SA=219.8cm<sup>2</sup></td> </tr> <tr> <td>5. SA=1498.5cm<sup>2</sup></td> <td>6. V=76 ft<sup>2</sup></td> </tr> <tr> <td>7. 8 times</td> <td></td> </tr> </table>	1. V=314.2 cm <sup>3</sup> SA = 282.7cm <sup>2</sup>	2. V=3015.9cm <sup>3</sup>	3. \$7539.82	4. SA=219.8cm <sup>2</sup>	5. SA=1498.5cm <sup>2</sup>	6. V=76 ft <sup>2</sup>	7. 8 times		<p><b>MEASUREMENT PROBLEM SOLVING p. 23</b></p> <table border="1"> <tr> <td>Answers</td> </tr> <tr> <td>1. a) 236.2 cm<sup>3</sup> b) 493.6 cm<sup>2</sup></td> </tr> <tr> <td>2. b) 13.6 m<sup>3</sup> c) 31.4 m<sup>2</sup></td> </tr> <tr> <td>d) 680 tanks</td> </tr> <tr> <td>3. a) 19 pieces b) 0.9 m</td> </tr> <tr> <td>4. a) 5.3 m<sup>3</sup> b) 22.5 m<sup>2</sup></td> </tr> <tr> <td>c) \$210 d) 14 cans</td> </tr> <tr> <td>e) \$301.00</td> </tr> </table>	Answers	1. a) 236.2 cm <sup>3</sup> b) 493.6 cm <sup>2</sup>	2. b) 13.6 m <sup>3</sup> c) 31.4 m <sup>2</sup>	d) 680 tanks	3. a) 19 pieces b) 0.9 m	4. a) 5.3 m <sup>3</sup> b) 22.5 m <sup>2</sup>	c) \$210 d) 14 cans	e) \$301.00																																							
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