

**Part 1: I can find perfect squares and square roots using grids and numbers**

Solve for $9^2$ $9 \times 9 = 81$	Solve for $6^2$ : $6 \times 6 = 36$
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**Part 2: I can estimate the square root of numbers that are not perfect squares**

Estimate for $\sqrt{41}$ $\sqrt{49} = 7$ $\sqrt{36} = 6$ $\sqrt{41} \approx 6.5$	Estimate for $\sqrt{19}$ $\sqrt{25} = 5$ $\sqrt{16} = 4$ $\sqrt{19} \approx 4.5$
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**Part 3: I can demonstrate an understanding of percents greater than 0%**

Write 22% as a fraction in lowest terms $\frac{22}{100} \div 2 = \frac{11}{50}$	What is 40% of 120? $.40 \times 120 = 48$
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**Part 4: I can demonstrate an understanding of ratios and rates**

Reduce the following ratio 4 dogs for every 6 cats: $4:6 = 2:3$	IGA is selling 4 oranges for \$3. What is the unit price per orange? $\frac{\$3}{4 \text{ oranges}} \div 4 = \frac{\$.75}{1 \text{ orange}}$ or $\frac{75¢}{1 \text{ orange}}$ $4 \overline{) 3.00}$ $\underline{-28}$ $20$ $\underline{-20}$ $0$
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**Part 5: I can multiply and divide positive fractions and mixed numbers**

$\frac{1}{2} \times \frac{5}{4} = \frac{5}{8}$	$\left(2\frac{1}{2}\right) \div \left(2\frac{3}{4}\right)$ $\frac{5}{2} \div \frac{11}{4} = \frac{5}{2} \times \frac{4}{11} = \frac{20}{22} = \frac{10}{11}$
$\frac{7}{3} \times \frac{4}{3} = \frac{28}{9} = 3\frac{1}{9}$	$\left(1\frac{2}{3}\right) \div \left(\frac{3}{5}\right)$ $\frac{5}{3} \div \frac{3}{5} = \frac{5}{3} \times \frac{5}{3} = \frac{25}{9} = 2\frac{7}{9}$

**Part 6: I can multiply and divide positive and negative integers using both tiles and numbers**

<p>Show using tiles: <math>(-2)(-12) =</math></p> <p><math>(-2)(-12) = 24</math></p>	<p>Solve: <math>3(2-7) + 4(18-10)</math></p> <p><math>3(-5) + 4(8)</math></p> <p><math>-15 + 32</math></p> <p><math>17</math></p> <p style="text-align: right;">B E D M A S</p>
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**Part 8: I can solve for X both pictorially using algebra tiles (or balances) as well as numerically**

<p>Using algebra tiles or balances, show how you would solve for X: <math>2x - 1 = 19</math></p> <p><math>2x - 1 = 19</math></p> <p><math>2x = 20</math></p> <p><math>x = 10</math></p>	<p>Solve: <math>2(8x+1) = 3</math></p> <p><math>16x + 2 = 3</math></p> <p><math>16x = 1</math></p> <p><math>x = \frac{1}{16}</math></p>
<p>Using algebra tiles or balances, show how you would solve for X: <math>4x - 3 = 4</math></p> <p><math>4x - 3 = 4</math></p> <p><math>4x = 7</math></p> <p><math>x = \frac{7}{4} = 1\frac{3}{4}</math></p>	<p>Solve: <math>2x - 4 = 5x + 3</math></p> <p><math>2x = 5x + 7</math></p> <p><math>-3x = 7</math></p> <p><math>x = -\frac{7}{3} = -2\frac{1}{3}</math></p>

**Part 9: I can use the Pythagorean Theorem to solve right triangle problems**

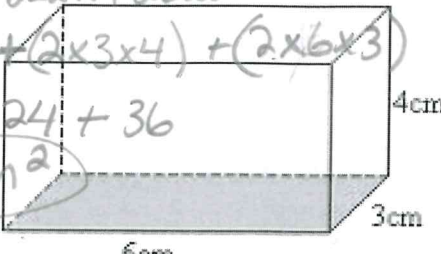
<p>Solve for the unknown side:</p> <p><math>a^2 + b^2 = c^2</math></p> <p><math>a^2 + 9^2 = 11^2</math></p> <p><math>a^2 + 81 = 121</math></p> <p><math>a^2 = 40</math></p> <p><math>a = \sqrt{40}</math></p> <p><math>a = 6.3</math></p>	<p>Is this a right triangle? Why or why not?</p> <p><math>a^2 + b^2 = c^2</math></p> <p><math>2^2 + 4^2 = 5^2</math></p> <p><math>4 + 16 = 25</math></p> <p><math>20 \neq 25</math></p> <p>The left and right side do not equal so this is not a right triangle.</p>
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**Part 10: I can draw and construct nets for 3D objects**

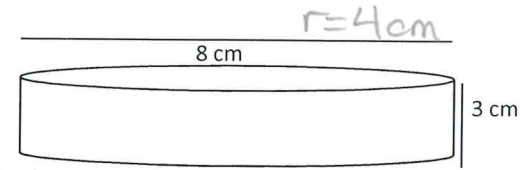
<p>Draw a net diagram for a cylinder</p>	<p>Draw a net for a right rectangular prism.</p>
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**Part 11: I can determine surface area for right rectangular prisms, right triangular prisms, and right cylinders**

What is the **surface area** of the below shape?

$$\begin{aligned} S.A. &= 2L \times W + 2L \times H + 2W \times H \\ &= (2 \times 6 \times 4) + (2 \times 3 \times 4) + (2 \times 6 \times 3) \\ &= 48 + 24 + 36 \\ &= 108 \text{ cm}^2 \end{aligned}$$


What is the **surface area** of the below shape?

$$\begin{aligned} S.A. &= 2\pi r^2 + \pi dh \\ &= (2 \times 3.14 \times 4^2) + (3.14 \times 8 \times 3) \\ &= 100.48 + 75.36 \end{aligned}$$


**Part 13: I can draw the top, front, and side views of 3D objects of right prisms**

Sketch the side view of a cylinder:



Sketch the top view of a right triangular prism:



**Part 15: I can critique ways in which data is graphically and statistically presented**

You have collected data on the length of your forearm (cm) and the height of your foot (cm).

What is the best way to show this in graph format? Why?

1. pie chart
2. line graph
3. bar graph
4. data table

*either one.*

Because:

*Comparing numerical data vs numerical data.*

*Line graph to show the relationship between the numerical data.*

**Part 16: I can solve probability of independent events**

You have a bag of 10 bingo chips. 4 are pink and 6 are blue. If you remove four bingo chips in a row, what is the probability that they are all pink?

$$\frac{4}{10} \times \frac{4}{10} \times \frac{4}{10} \times \frac{4}{10} = \frac{256}{10,000} = \frac{16}{625}$$