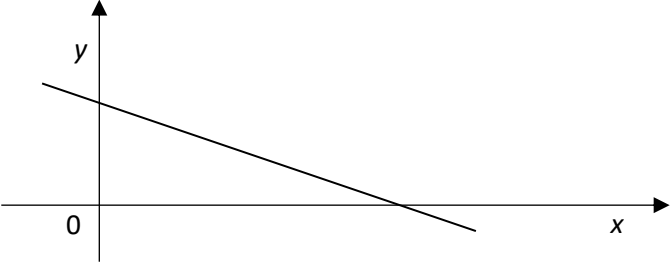


Answers	
1	$1\frac{1}{8} \div \frac{3}{4} = \frac{9}{8} \times \frac{4}{3} = \frac{3}{2}$
2	(a) $(x + 1)(x - 1)$ (b) $(x - 6)(x + 1)$ 3 $(x - 2)^2 + 3$
4	$8x^2 + 10x - 4x - 5 - 3x^2 - 3 = 5x^2 + 6x - 8$
5	$(\sqrt{50})^2 = (\sqrt{32})^2 + AC^2, 50 = 32 + AC^2, AC^2 = 50 - 32,$ $AC^2 = 18, AC = \sqrt{18}, AC = \sqrt{9}\sqrt{2} = 3\sqrt{2}$
6	subtract t^2 $S - t^2 = \frac{3}{4}a$, multiply by 4 and divide by 3 $a = \frac{4}{3}(S - t^2)$
7	105% of 4000 = 4000 + 200 = 4200, 105% of 4200 = 4200 + 210 = 4410 bacteria Or $4000 \times 1.05^2 = 4410$ bacteria
8	The space diagonal is $\sqrt{8^2 + 6^2 + 5^2} = \sqrt{125} = \sqrt{25}\sqrt{5} = 5\sqrt{5} = 11.2 \text{ cm}$
9	If the gradient is negative then the line slopes down. If c is positive then the line crosses the y-axis anywhere above the origin ($x=0$) 
10	Volume of a hemisphere is $\frac{4}{3} \times \pi \times r^3 \div 2$, $V = \frac{4}{3} \times \pi \times (3.2 \times 10^3)^3 \div 2 = 6.8629 \dots \times 10^{10}$ Volume is $6.9 \times 10^{10} m^3$

Extra Help from mathsworkout.co.uk . School login is madrascol school password is value28		
1	Changing the subject	Algebra: topic 11 Any Level 5 tasks
2	Completing the square	Algebra: topic 12 Completing the Square (level 7)
3	Expanding Brackets	Algebra: topic 12 Expanding Brackets (Level 4)
4	Factorising	Algebra: topic 12 Factorising Quadratics (Level 5)
5	Fractions	Number: topic 14 – Add, Subtract, Multiply and Divide
6	Percentages	Ratio: topic 7 Percentage increase and decrease
7	Straight Lines	Graphs: topic 2 <ul style="list-style-type: none"> • Calculating the Gradient • Equation of a Straight Line 1 and 2
8	3D Pythagoras	Geometry: topic 19 Pythagoras in 3D
9	Volume	Geometry: topic 15 Volume of a sphere