National 4 Expressions NAB Part 1 Practice Test

(1) Simplify $3a - 4b + 10a + 7b$

(2) Expand and simplify $4(2x + 7)$

(3) Factorise $4x + 16$

(4) When $a = 3$ and $b = 4$ Find $4a + 3b$

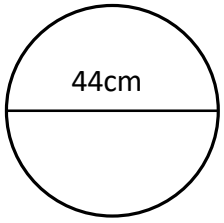
(5) The formula for calculating the volume of a cone is

$$V = \frac{1}{3}\pi r^2 h$$

Where r is the radius and h is the height of the cone. [$\pi = 3.14$]

Use the formula to calculate the volume of a cone with diameter 18cm and height 35cm, giving your answer to the nearest $10cm^3$

(6) This circle has a diameter of 44cm



(a) Calculate the circumference of the circle

(b) Calculate the area of the circle

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(7) Copy and complete the table

Tables (T)	1	2	3	4	5	.....	30
Seats (S)	6	10	14				

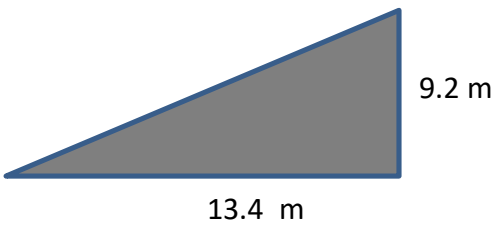
(a) Write down the formula connecting seats (S) with the tables (T)

(b) How many tables are required for 42 seats?

(7) Council regulations state that the gradient of a ramp must be no more than 0.5

(a) Calculate the gradient of the ramp

(b) Does the ramp meet the regulations ?



National 4 Expressions NAB Part 1 Revision (4) Answers

(1) $13a + 3b$

(2) $8x + 28$

(3) $4(x + 4)$

(4) $4(3) + 3(4) = 12 + 12 = 24$

(5) $V = 2967.3cm^3$

(6) (a) $C = 138.16cm$ (b) $A = 1519.76\ cm^2$

7) Copy and complete the table

Tables (T)	1	2	3	4	5	 30
Seats (S)	6	10	14	18	22	122

(a) $S = 4T + 2$

(b) 10 tables

8 (a) $m = 0.69$ (b) No it doesn't meet the regulations as 0.69 is greater than 0.5