

Worksheet 3-4: Factoring Trinomials of the Form $ax^2 + bx + c$ (Part 1)

Steps for Factoring Trinomials of the form $ax^2 + bx + c$:

- 1. Factor out any greatest common factor (GCF can divide each term "evenly")**
- 2. Factor as product of two binomials (by "Trial and Error" using product and sum)**
- 3. Check each binomial for any other common factor**
- 4. Check your answer by expanding**

Factor each trinomial.

1. $4x^2 - 8x - 60$

2. $-2x^2 - 14x + 36$

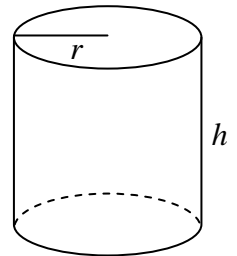
3. $2x^2 - 50$

4. $-4.9t^2 + 19.6t$

5. $3.7y^2 - 33.3$

6. The surface area of a cylinder is given by the formula $S.A. = 2\pi r^2 + 2\pi rh$

(a) Factor the expression for the surface area.



(b) A cylinder has radius 3 cm and height 10 cm. Use both the original expression and the factored expression in (a) to find the surface area of this cylinder to the nearest square centimetre.



Answers: 1. $4(x+3)(x-5)$; 2. $-2(x-2)(x+9)$; 3. $2(x+5)(x-5)$; 4. $-4.9t(t-4)$; 5. $3.7(y+3)(y-3)$;
6. (a) $S.A. = 2\pi r(r+h)$, (b) 245 cm²