SETTING UP ALGEBRAIC EXPRESSIONS

1) A Toffo bar costs x pence. A Choco cost 4 pence more than a Toffo. How much do the following cost? (Simplify answers where possible.)
(a) 5 Toffos   (b) c Toffos   (c) one Choco   (d) 4 Chocos
(e) 3 Toffos and 4 Chocos   (f) one of each
(g) I buy 2 Toffos. How much change do I get from 50 pence?
(h) I buy 5 Toffos. How much change do I get from £1?
(i) 6 Toffos cost more than 4 Chocos. How much more?
(j) 7 Chocos cost more than 8 Toffos. How much more?

2) One teacup holds p ml of liquid. One coffee cup holds x ml more than a teacup. How much do the following hold? (Simplify answers where possible.)
(a) 8 teacups   (b) m teacups   (c) one coffee cup (d) half a teacup
(e) half a coffee cup   (f) 4 teacups and 5 coffee cups
(g) How much more will 8 teacups hold than 3 coffee cups?

The kettle holds 4000ml of water.
(h) I fill 5 teacups from a full kettle. How much is left in the kettle?
(i) I fill 3 of each type of cup from a full kettle. How much is left?
(j) How many teacups can I fill from a full kettle?
(k) How many coffee cups can I fill from a full kettle?

3) A certain even number is represented by the letter n. Write down:
(a) the previous even number   (b) the next 3 even numbers
(c) the previous odd number   (d) the next 3 odd numbers
(e) the next 4 whole numbers   (f) the number I get by doubling n and then adding 4.
(g) the number I get by adding 4 to n and then doubling.

4) I can cycle at an average of x km per hour.
(a) How far can I go in 3 hours?   (b) How far can I go in y hours?
(c) How long will it take me to go 60 km?   (d) How long will it take me to go d km?

5) On my new bike I can go 6 km per hour faster than before. Repeat Q4 for my new bike.

6) Tom is x years old. How old is:
(a) Sally, who is 5 years older than Tom?   (b) Harry, who is twice Tom's age?
(c) Alf, who is 3 years younger than Harry?   (d) Bert, who is 3 times as old as Sally?

7) How old will all the people mentioned in question 6 be in 10 years time?

8) I bought c pens costing x pence each. How much change did I have from £k?

9) I can walk p km in t minutes.
(a) How long does it take me to walk one km?   (b) How long does it take me to walk x km?
(c) How far can I walk in 1 minute? (d) How far can I walk in 1 hour?

10) I can cycle at x km per hour and walk at y km per hour.
(a) How far will I travel if I cycle for a hours and then walk for b hours?
(b) How long will it take me to cycle 30km and then walk a further 10km?
(c) How far can I cycle in t minutes?