

LISP Programming Worksheet  
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School ACSL Club of 2014–2015

**You may not need to know all of this material for the next contest!** Problems 1 and 2 are representative of problems you may see on contest #2. Problems 3 through 5 are representative of problems you may see on contest #4.

### Questions

Evaluate the following LISP code.

1. (DIV 24 (SUB 2 5))
2. (ADD (MULT 48 40)  
      (SUB (SQUARE 9) 1)  
      (MULT 3 5))
3. (SETQ a 'hello)  
     (ATOM a)
4. (SETQ b '((what) is a list "?"))  
     (CONS (CAR b) (CDR b))  
     (SETQ (CAR b) (CAR (CAR b)))
5. (SET 'c '(21 22 23 50))  
     (SETQ (CDR (CDR c)) (CONS 33 NIL))  
     (REVERSE c)

## Answers

1. (DIV 24 -3)  
-8

2.

```
(ADD (MULT 48 40) (SUB 81 1) (MULT 3 5))  
(ADD 1920 80 15)  
2015
```

3.

(SETQ a 'hello)	Set variable <b>a</b> to symbol <b>hello</b> .
(ATOM a)	Returns true, since <b>a</b> is not a list.