

MATH 108 – QUIZ 2 – 2 FEBRUARY 2011

Answer all of the following questions in the space provided. Show all work as partial credit may be given. Answers without justification, even if they are correct, will earn no credit.

1. (4 pts.) A closed cylindrical can has surface area  $120\pi$  square inches. Express the volume of the can as a function of its radius. (Hint: The surface area  $S$  of a can with radius  $r$  and height  $h$  is  $S = 2\pi rh$ . The volume  $V$  of a can with radius  $r$  and height  $h$  is  $V = \pi r^2 h$ .)

2. (3 pts. each) Compute each of the following limits.

(a)  $\lim_{x \rightarrow 2} x^3 + 4$ .

(b)  $\lim_{x \rightarrow 3} \frac{x^2 - 2x - 3}{x - 3}$ .