5 dec

42.) 9,524 ft. water boils at 194°F (90°C) Celcius scale
0 ft. water boils at 212°F (100°C) $y = mx+b$

let x = altitude
y = Celsius temperature

a: (9524, 90) slope $= \frac{100-90}{0-9524} = \frac{10}{-9524} \sim -\frac{5}{4762}$
(0, 100)

y-intercept: 100

$y \sim -\frac{5}{4762}x + 100$

The equation that you could use to find the boiling point of water given the altitude is $y \sim -\frac{5}{4762}x + 100$. ✓

b: Yes, the intercept is meaningful because it shows what the altitude would be when the boiling point is 0. ✓

c: $y \sim -\frac{5}{4762}x + 100$
$60 \sim -\frac{5}{4762}x + 100$
$-40 \sim -\frac{5}{4762}x$
$x \sim 38,096$

Water would boil at 60°C at an altitude of 38,096 ft. ✓

d: $y \sim -\frac{5}{4762}(10,000) + 100$
$y \sim 89.5°C$

Water would boil at about 89.5°C at an altitude of 10,000 feet above sea level. ✓

e: $y \sim -\frac{5}{4762}(29032) + 100$
$y \sim 69.5°C$

Water would boil at about 69.5°C at the summit of Mount Everest. ✓