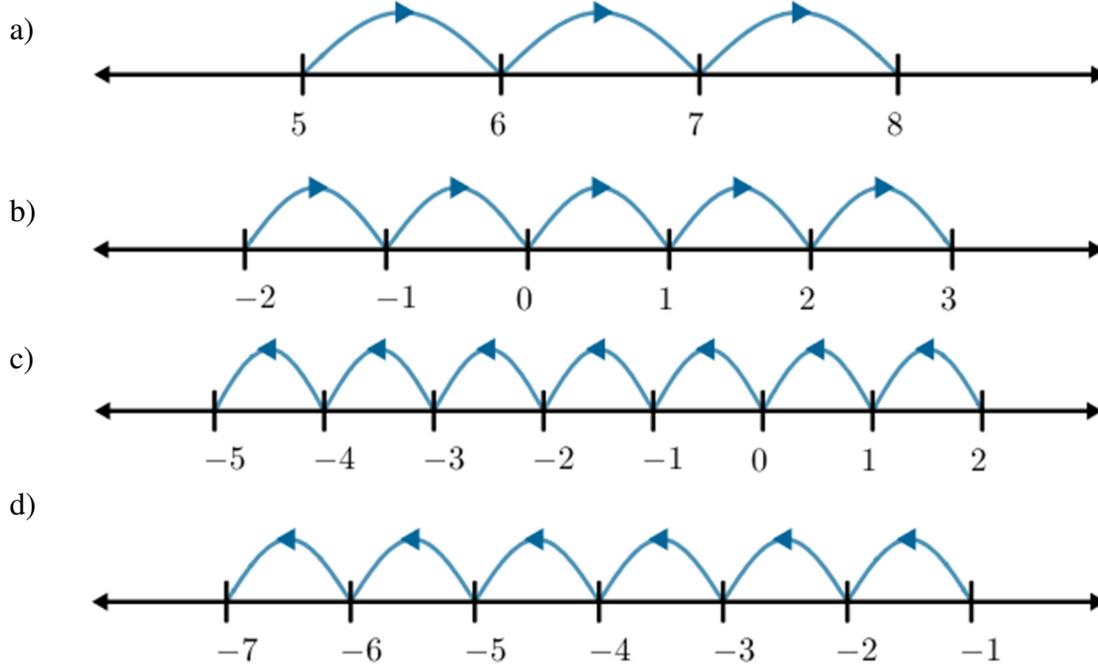1) State the addition that is represented by each of the following number line diagrams

a)

b)

c)

d)

2) a) What number is 8 more than 15?
   c) What number is 10 greater than -6?

   b) What number is 1 greater than -4?
   d) What number is 20 higher than -25?

3) The temperature of a liquid is 12°C. If the temperature increases by 16°C, what will the new temperature be?

4) Early in the morning, the temperature of the outside air was -4°C. By noon, the temperature had risen by 9°C. What was the temperature at noon?

5) Add.

   a) $9+8$

   b) $-5+1$

   c) $9+(-7)$

   d) $-4+6$

   e) $-8+(-9)$

   f) $-12+6$

   g) $0+(-28)$

   h) $(-10)+(-16)$

   i) $-120+0$

   j) $12+(-30)$

   k) $50+(-50)$

   l) $(-15)+(-15)$

6) a) Sonu claims that adding two positive integers always results in a positive integer. Is Sonu's claim correct? Explain.
   b) Addy stated that adding two negative integers can result in a positive integer. Is Addy correct? Explain.
   c) Fran claims that adding a negative integer and a positive integer always gives a negative result. Is Fran's claim correct? Explain.

ANSWERS

1) a) $5+3$ b) $-2+5$ c) $2+(-7)$ d) $-1+(-6)$

2) a) 23   b) -3 c) 4   d) -5

3) 28°C

4) 5°C

5) a) 17   b) -4 c) 2   d) 2   e) -17 f) -6
   g) -28 h) -26 i) -120 j) -18 k) 0   l) -30

6) a) Yes. In this case, one would start at a positive number and move to the right on the number line, giving a greater positive result.
   b) No. In this case, one would start at a negative value and move to the left on the number line, resulting in a negative value farther from zero.
   c) No. If the two numbers are opposite, the result would be zero. Otherwise, the result will have the same sign as the number that is farthest from zero.