I. Have is one of the most common verbs that you will see in engineering. Look at the sentences below that are from engineering books. What words follow **have**?

1. Computer-assisted drawing and GIs applications **have** expanded to offer a wider variety of uses.
2. Various benchmarks **have** been developed for responding to complaints and o
3. The context under which municipal utility decisions **have** been assessed is that of utility law.
4. In Figure 1.2.11c the oscillations **have** become clear because the vertical scale is more
5. The graph appears to be a straight line because we **have** focused on such a small portion of the curve.
6. As we **have** discussed previously, the speaker end is a pressure node at
7. The use of ASME standards that we **have** discussed previously, Individually manufactured parts…
8. All the two-dimensional diagrams we **have** discussed so far of this three-dimensional surface onto the…
9. We **have** shown that there are indeed many analogies between lay and…
10. We **have** shown that plane strain satisfies all the equations three of…
11. Now that we **have** shown that matter is really made up of atoms, let us look…
12. We **have** seen that we can learn much about real gases by …
13. As we **have** seen, design and manufacturing must…
14. in a glass is the same at any point." To **have** a sense of the distance involved at the molecular …
15. the one with a larger radius would **have** a smaller coefficient of rolling friction.

i.) Words are before and after ***have***?

before	have	after

ii.) Do you see any pattern?

II. What about **has**? Take a look at the sentences from engineering books below.

1. The composition of domestic wastewater **has** changed as the public's needs and PI have changed

2. ...compartment such as a septic tank. The designer **has** the basic option of using a centrifugal or...

3. A negative-pressure system typically **has** a pipeline diameter of 5 to 20 cm (2 to 8 in.). S

4. ...to produce a hydrogen fuel. A reactor-separator **has** been designed that can accommodate temperatures a...

5. ...by large coal and - plants. However, there **has** been an historic shift toward natural gas turbines.

6. A crater lake **has** a base area of 20,000 m2, and the water it contains...

7. ...all rectangles with perimeter p, the square **has** the maximum area.

8. ...that among all rectangles with area A, the square **has** the minimum perimeter.

9. This **has** been discussed in ...

10. This **has** become the leading modern technology for producing steel

11. ...and force in the ST Units The SI system of units **has** become nearly standard the United...

12. ...however, the computerized interpretive process **has** become more automated.

13. The probe **has** an inlet diameter of 4 rnrn and a ...

14. The crest of a high, broad-crested weir **has** an elevation of 100 rn. If the weir is 10 m long ...

15. The crest of a high, broad-crested weir **has** an elevation of 300 ft.

i.) Words are before and after ***has***?

before	has	after

ii.) Do you see any pattern?

iii). Do you see any differences between how ***have*** and ***has*** are used?

III. Complete the sentences with either ***have*** or ***has***, based on the examples and your observations.

1. A glacial lake a base area of 15,000 sq. meters, and the average temperature is 5°C.

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2. This become the standard way to solve these equations.

_____

3. We discussed this idea briefly in Chapter 12, but we will look at this idea in more detail in this chapter.

_____

4. To an idea of the size of this molecule, we need to make a comparison to everyday objects.

_____

5. Various applications been developed for the laser over the last 45 years.

_____

6. The designer the option of using a variety of algorithms to solve this problem.

_____

7. As we seen in earlier examples, this formula is very useful and easy to apply.

_____

8. The metric system become the common method to measure things in most countries.

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