|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  | **Marginal Abatement** | | |
|  |  |  | **Costs ($1,000/week)** | | |
| **Emissions (tons/week)** | | | **Source A** |  | **Source B** |
|  | 12 |  | 0 |  | 0 |
|  | 11 |  | 1 |  | 2 |
|  | 10 |  | 2 |  | 4 |
|  | 9 |  | 3 |  | 6 |
|  | 8 |  | 4 |  | 10 |
|  | 7 |  | 5 |  | 14 |
|  | 6 |  | 6 |  | 20 |
|  | 5 |  | 8 |  | 25 |
|  | 4 |  | 10 |  | 31 |
|  | 3 |  | 14 |  | 38 |
|  | 2 |  | 24 |  | 58 |
|  | 1 |  | 38 |  | 94 |
|  | 0 |  | 70 |  | 160 |

If neither source makes effort to control emissions they will each emit 12 tons/week.

Firms A and B have different costs of abating emissions.

What is the marginal cost of Firm A eliminating the 3rd ton/week?

What is the total cost of eliminating 3 tons?

What is the marginal cost of Firm B eliminating the 3rd ton/week?

What is the total cost of eliminating 3 tons?

What could be causing difference in abatement costs between the firms?

Suppose public policy calls for total emissions to fall by half.

What is total cost if each firm moved from 12 tons/week to 6 tons/week?

More efficient socially to assign abatement for marginal ton to firm that can do it using fewer scarce resources.

Point where total abatement equals 12 tons *and* marginal abatement costs equal.

Calculate the total cost across firms if allocation of pollution abatement is at the point where marginal abatement costs equal.