

| Model                 | SQuAD              | Google-RE          | T-REx              |
|-----------------------|--------------------|--------------------|--------------------|
| GPT-J                 | 17.8               | 4.9                | 31.9               |
| GPT-J + CC            | 19.2               | 5.6                | 33.2               |
| Toolformer (disabled) | 22.1               | 6.3                | 34.9               |
| Toolformer            | <b><u>33.8</u></b> | <b><u>11.5</u></b> | <b><u>53.5</u></b> |
| OPT (66B)             | 21.6               | 2.9                | 30.1               |
| GPT-3 (175B)          | 26.8               | 7.0                | 39.8               |

Table 3: Results on subsets of LAMA. Toolformer uses the question answering tool for most examples, clearly outperforming all baselines of the same size and achieving results competitive with GPT-3 (175B).

| Model                 | ASDiv              | SVAMP              | MAWPS              |
|-----------------------|--------------------|--------------------|--------------------|
| GPT-J                 | 7.5                | 5.2                | 9.9                |
| GPT-J + CC            | 9.6                | 5.0                | 9.3                |
| Toolformer (disabled) | 14.8               | 6.3                | 15.0               |
| Toolformer            | <b><u>40.4</u></b> | <b><u>29.4</u></b> | <b><u>44.0</u></b> |
| OPT (66B)             | 6.0                | 4.9                | 7.9                |
| GPT-3 (175B)          | 14.0               | 10.0               | 19.8               |

Table 4: Results for various benchmarks requiring mathematical reasoning. Toolformer makes use of the calculator tool for most examples, clearly outperforming even OPT (66B) and GPT-3 (175B).

| Model                 | WebQS              | NQ                 | TriviaQA           |
|-----------------------|--------------------|--------------------|--------------------|
| GPT-J                 | 18.5               | 12.8               | 43.9               |
| GPT-J + CC            | 18.4               | 12.2               | 45.6               |
| Toolformer (disabled) | 18.9               | 12.6               | 46.7               |
| Toolformer            | <b><u>26.3</u></b> | <b><u>17.7</u></b> | <b><u>48.8</u></b> |
| OPT (66B)             | 18.6               | 11.4               | 45.7               |
| GPT-3 (175B)          | <u>29.0</u>        | <u>22.6</u>        | <u>65.9</u>        |

Table 5: Results for various question answering dataset. Using the Wikipedia search tool for most examples, Toolformer clearly outperforms baselines of the same size, but falls short of GPT-3 (175B).