## Solve each problem using a tape diagram.

1) The elementary, middle and high schools were competing to see who could earn the most money fund raising. Together they earned $\$ 424$. The middle school ended up earning 8 times as much as the high school and the elementary earned $\$ 18$ fewer than the high school. How much money did the middle school earn?
2) Vanessa, her brother and her sister pooled their money to buy a console and some games. Together they had $\$ 277$. Vanessa gave $1 / 3$ as much as her sister and her brother gave $\$ 10$ fewer than her sister. How much did her sister contribute?
3) Emily sent 560 text messages over the summer. In July she sent 7 times as many as she did in August. And in June she sent 10 fewer than in July. How many texts did she send in June?
4) A theater owner was looking at how many sodas they sold of different sizes in a day. Total they sold 463 sodas. They sold $1 / 5$ as many small sodas as they did large sodas. And they sold 10 fewer medium sodas as they did large sodas. How many small sodas did they sell?
5) Haley spent 238 minutes working on her report. She spent twice as long researching the topic as she did writing the paper. She also spent 12 minutes less than the time she spent researching just preparing material. How much time did she spend researching?

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