

Text Messaging



1. How many text messages are sent if four people all send messages to each other?
2. How many text messages are sent with different numbers of people?
3. Approximately how many text messages would travel in cyberspace if everyone in your school took part?
4. Can you think of other situations that would give rise to the same mathematical relationship?

Text Messaging

Follow-up task for students

Look carefully at the following extracts of work from other students. Imagine you are their teacher. Go through each piece of work and write comments on each one.

- Have they chosen a sensible method?
- Are the calculations correct?
- Are the conclusions sensible?
- Is the work easy to understand?

Text Messaging

Tom's answer

Celia Send's one to Tracey =1
Tracey Send's one to Celia =1
Tracey send's one to maria =1
maria Send's one to anne - maria =1
Anne -marie Send's one to Celia =1
Celia send's one to anne -marie =1
maria Send's one to Tracey =1
Tracey send's one to Anne.marie =1
maria Send's one to Celia =1

Text Messaging

Sam's answer

① For 4 people $\square \square \square \square_{12}$.

② 1) \square_0 2) $\square \square_2$ 3) $\square \square \square_6$ 4) $\square \square \square \square_{12}$

5) $\square \square \square \square \square \square_{16}$ 6) $\square \square \square \square \square \square_{20}$

7) $\square \square \square \square \square \square \square_{42}$

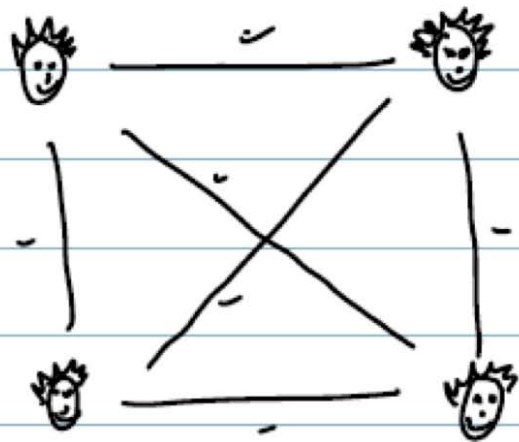
8) $\square \square \square \square \square \square \square \square_{56}$

9) $\square \square \square \square \square \square \square \square \square_{73}$

③ Don't know.

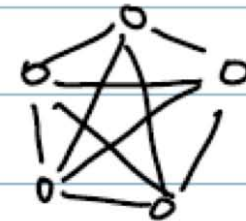
Text Messaging

Chris's answer



= 6 texts

3



People	1	2	3	4	5
texts	0	1	3	6	10

Text Messaging

Lily's answer

	Amy	Belinda	Suzie	Mary	Tom
Amy	—	Text	Text	Text	Text
Belinda	Text	—	Text	Text	Text
Suzie	Text	Text	—	Text	Text
Mary	Text	Text	Text	—	Text
Tom	Text	Text	Text	Text	—

= 12 texts for 4 people

Tom adds 8 more texts = 20 altogether.

For more people you add extra rows and columns.

Text Messaging

Marvin's answer

$4 \times 3 = 12$ So there are 12 messages with 4 people.

With eight people there will be $8 \times 7 = 56$ messages

With a thousand people there will be $1000 \times 999 = 999000$ messages

The formula is number of people \times one less than this because you don't send a text to yourself.