

ESTIMATING - HELP

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HEY POE, IN MATHEMATICS WE CAN USE **ESTIMATING** TO HELP US SOLVE LARGER, MORE DIFFICULT PROBLEMS.

ESTIMATING HUH, IS THAT WHEN WE MAKE THE NUMBER LOOK EASIER?

YES, THAT'S A PRETTY GOOD WAY OF LOOKING AT IT. MOST MATH PEOPLE LIKE TO SAY IT'S AN APPROXIMATION.

ESTIMATION, APPROXIMATION, SO MANY BIG WORDS. IF I UNDERSTAND YOU CORRECTLY ESTIMATING TELLS US WHAT A NUMBER 'ABOUT' EQUALS.

POE IS RIGHT... LET'S TAKE A LOOK AT SOME PROBLEMS TO BETTER SHOW YOU WHAT HE MEANS.

62 IS CLOSE TO 60 AND 38 IS CLOSE TO 40, AND 60 AND 40 ARE MUCH EASIER NUMBERS.

ACTUAL	ESTIMATE
62	60
38	40

YOU KNOW I USE ESTIMATING ALL THE TIME, ESPECIALLY, WHEN I GO SHOPPING. I MEAN IF SOMETHING COSTS 99 CENTS I ESTIMATE IT TO 1 DOLLAR. IT MAKES THE NUMBER EASIER.

SO DO I. THAT WAY IT'S LESS DIFFICULT TO FIGURE OUT HOW MUCH MONEY I NEED TO BUY STUFF. I DON'T HAVE TO THINK SO HARD.

TAKE A LOOK AT THESE EXAMPLES. AFTER ESTIMATING DO YOU SEE HOW THE NUMBERS ARE EASIER TO REMEMBER AND WORK WITH? NOW TRY THE PROBLEMS BELOW ON YOUR OWN.

ACTUAL	ESTIMATE
12	10
43	40
98	100

1. $78 \rightarrow 80$ 2. $21 \rightarrow 20$ 3. $57 \rightarrow 60$
70 78 80 IS 21 CLOSER TO 20 OR 30? IS 57 CLOSER TO 50 OR 60? IS 78 CLOSER TO 70 OR 80?

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ON THESE PROBLEMS USE THE NUMBER LINE TO HELP YOU ESTIMATE.

HELPFUL EXAMPLE

ACTUAL	ESTIMATE
23	20

23 IS BETWEEN 20 AND 30, BUT IT'S CLOSER TO 20.

1. $79 \rightarrow 80$ 2. $22 \rightarrow 20$ 3. $86 \rightarrow 90$

4. $59 \rightarrow 60$ 5. $13 \rightarrow 10$ 6. $36 \rightarrow 40$

7. $71 \rightarrow 70$ 8. $67 \rightarrow 70$ 9. $49 \rightarrow 50$

10. $84 \rightarrow 80$ 11. $34 \rightarrow 30$ 12. $83 \rightarrow 80$

13. $91 \rightarrow 90$ 14. $17 \rightarrow 20$ 15. $28 \rightarrow 30$

16. $53 \rightarrow 50$ 17. $99 \rightarrow 100$ 18. $42 \rightarrow 40$

SOMETIMES THE NUMBER IS RIGHT IN THE MIDDLE OF TWO NUMBERS. FOR EXAMPLE, 35 IS EXACTLY IN THE MIDDLE OF 30 AND 40. IF THIS HAPPENS JUST MAKE THE NUMBER BIGGER.

ACTUAL	ESTIMATE
35	40

19. $65 \rightarrow 70$ 20. $95 \rightarrow 100$ 21. $15 \rightarrow 20$

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TAKE A LOOK AT THESE EXAMPLES. DO YOU SEE HOW THERE COULD BE MORE THAN ONE ANSWER? IT JUST MATTERS HOW EASY DO YOU WANT THE NUMBER TO BE.

ACTUAL	EASY	EASIER
432	430	400
874	870	900
552	550	600

WHEN ESTIMATING TRY AND GET THE NUMBER AS EASY AND SIMPLE AS POSSIBLE.

ESTIMATE.

1. $221 \rightarrow 200$ 2. $92 \rightarrow 90$ 3. $509 \rightarrow 500$

4. $193 \rightarrow 200$ 5. $313 \rightarrow 300$ 6. $732 \rightarrow 700$

7. $804 \rightarrow 800$ 8. $48 \rightarrow 50$ 9. $668 \rightarrow 700$

10. $150 \rightarrow 200$ 11. $3 \rightarrow 0$ 12. $831 \rightarrow 800$

13. $494 \rightarrow 500$ 14. $359 \rightarrow 400$ 15. $87 \rightarrow 90$

16. $320 \rightarrow 300$ 17. $987 \rightarrow 1,000$ 18. $524 \rightarrow 500$

19. $63 \rightarrow 60$ 20. $625 \rightarrow 600$ 21. $750 \rightarrow 800$

22. $282 \rightarrow 300$ 23. $119 \rightarrow 100$ 24. $462 \rightarrow 500$

25. $950 \rightarrow 1,000$ 26. $45 \rightarrow 50$ 27. $509 \rightarrow 500$

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USE YOUR ESTIMATING SKILLS TO ANSWER THE WORD PROBLEMS BELOW.

DUDE, I SWERVED TO MISS A SQUIRREL. I PROMISE TO PRACTICE.

MIKE RIDES HIS SCOOTER 9.8 MILES EVERYDAY TO SCHOOL. ABOUT HOW MANY MILES IS THAT A WEEK?

ANSWER: 9.8 MILES IS VERY CLOSE TO 10. THERE ARE NORMALLY FIVE DAYS OF SCHOOL, SO $5 \times 10 = 50$ MILES A WEEK.

1. SUZY'S BASKETBALL TEAM SCORED 39, 48, 29, AND 58 POINTS IN FOUR GAMES. ABOUT HOW MANY POINTS IS THAT TOTAL?

180 POINTS

2. WILL WORKED FOR HIS DAD AT THE COMPUTER STORE. HE MADE \$21 ON MONDAY, \$29 ON WEDNESDAY, AND \$18 ON FRIDAY. APPROXIMATELY HOW MUCH DID HE MAKE?

\$70.00

3. MR. JONES RUNS 19 MILES A WEEK. ABOUT HOW MANY MILES IS THAT A YEAR? (HINT: THERE ARE 52 WEEKS IN A YEAR.)

1,000 MILES

4. VICKY BOUGHT 8 BAGS OF CANDY. EACH BAG COST 98 CENTS. AROUND HOW MUCH DID SHE PAY FOR ALL THE CANDY?

\$8.00

5. TOM'S SOCCER TEAM SCORED 23 GOALS IN THE ENTIRE SEASON. THEY PLAYED 10 GAMES. APPROXIMATELY HOW MANY GOALS IS THAT PER GAME?

2 GOALS PER GAME

6. KELLY SOLD COOKIES FOR HER BASEBALL TEAM. SHE SOLD 58 BOXES OF COOKIES FOR \$1.99 EACH. ABOUT HOW MUCH DID SHE MAKE FOR HER TEAM?

\$120.00