

Fraction Lab

Fraction Lab

PART A

INSTRUCTIONS - DRAW DIAGRAMS TO INVESTIGATE THE FOLLOWING (**DO NO COMPUTATION**). DO NOT USE CIRCLES FOR YOUR DIAGRAMS; INSTEAD USE RECTANGLES TO MAKE YOUR “WHOLE” AND SHADE TO SHOW THE FRACTIONAL PART. WHICH FRACTION IS LARGER?

1. $\frac{2}{3}$ or $\frac{1}{3}$

2. $\frac{3}{5}$ or $\frac{2}{5}$

3. $\frac{1}{4}$ or $\frac{3}{4}$

4. $\frac{5}{8}$ or $\frac{7}{8}$

5. Make a generalization for comparing fractions from these examples. Your generalization should state a way of knowing which of a pair of fractions is larger without drawing them. The generalization should describe how to compare fractions that are related in a particular way, e.g., “If two fractions have the same numerator...” You may need to try some more examples to see patterns and check your patterns. Do NOT just rely on mathematics, but rather on your understanding of fractions.

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6. $\frac{1}{3}$ or $\frac{1}{2}$

7. $\frac{3}{7}$ or $\frac{3}{8}$

8. $\frac{2}{4}$ or $\frac{2}{7}$

9. $\frac{1}{12}$ or $\frac{1}{10}$

10. Make a generalization for comparing fractions from these examples. Your generalization should state a way of knowing which of a pair of fractions is larger without drawing them. The generalization should describe how to compare fractions that are related in a particular way, e.g., “If two fractions have the same numerator...” You may need to try some more examples to see patterns and check your patterns. Do NOT just rely on mathematics, but rather on your understanding of fractions.

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11. $\frac{1}{4}$ or $\frac{2}{3}$

12. $\frac{3}{4}$ or $\frac{5}{8}$

13. $\frac{7}{8}$ or $\frac{3}{4}$

14. $\frac{1}{6}$ or $\frac{2}{7}$

15. Make a generalization for comparing fractions from these examples. Your generalization should state a way of knowing which of a pair of fractions is larger without drawing them. The generalization should describe how to compare fractions that are related in a particular way, e.g., “If two fractions have the same numerator...” You may need to try some more examples to see patterns and check your patterns. Do NOT just rely on mathematics, but rather on your understanding of fractions.

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PART B

INSTRUCTIONS:

FOR THE FOLLOWING PROBLEMS EXPLAIN HOW YOU CAN TELL WHICH FRACTION IS LARGER. DO NOT USE ROUTINE COMPUTATION. USE YOUR UNDERSTANDING OF FRACTIONS. USE DIAGRAMS AS NEEDED. WRITE YOUR METHOD DOWN.

16. $\frac{7}{8}$ or $\frac{13}{12}$

17. $\frac{9}{10}$ or $\frac{11}{12}$

18. $\frac{21}{13}$ or $\frac{21}{17}$

19. $\frac{11}{24}$ or $\frac{17}{30}$

20. $\frac{20}{9}$ or $1\frac{1}{3}$

21. $\frac{3}{5}$ or $\frac{19}{21}$

22. From your work in problems 16-21, what new generalizations can you suggest? Add these to your previous list. (Non-routine computational methods can be included here if you developed the method from your explorations above.)