CRAVEN
COMMUNITY COLLEGE

TABE Math-E

PAXEN

Unit-4 Fractions

Lesson 27
Equivalent Fractions
(Scale Factor)

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Some graphics may not have copied well during the scan process.

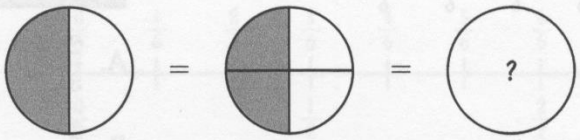
Math-E - Lesson 27 – Equivalent Fractions

Lesson 27 Generate Equivalent Fractions

3.NF.3.b – High

You can recognize and create equivalent fractions in different ways. One way is by multiplying the numerator and denominator by the same number. You can choose any number except zero.

Example What is the next equivalent fraction?



Hint

If the numerator and denominator in a fraction are the same number, that fraction is equal to 1.

$\frac{2}{2} = 1$

$\frac{3}{3} = 1$

$\frac{4}{4} = 1$ and so on.

1) Determine the relationship.

The first circle shows $\frac{1}{2}$ shaded.

The second circle shows $\frac{2}{4}$ shaded.

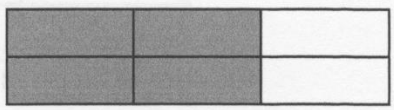
2) Multiply both the numerator and the denominator of $\frac{2}{4}$ by 2.

$$\frac{2 \times 2}{4 \times 2} = \frac{4}{8}$$

So, the third circle would show a circle that is divided into 8 parts with 4 of the parts shaded. The next equivalent fraction is $\frac{4}{8}$.

Another way is using division. Sometimes you can divide until 1 is the only number that can be divided into the numerator and the denominator evenly to find equivalent fractions.

Example What is an equivalent fraction?



1) Identify the fraction represented by the model. The model has 6 equal parts. 4 parts are shaded. The fraction is $\frac{4}{6}$.

2) Divide the numerator and denominator by the same number. Both the numerator and denominator can be divided by 2.

3) Divide.

$$\frac{4 \div 2}{6 \div 2} = \frac{2}{3}$$

So, the equivalent fraction for $\frac{4}{6}$ is $\frac{2}{3}$.

Math-E - Lesson 27 – Equivalent Fractions

Test Example

1. Irene made a blueberry pie. There is $\frac{2}{8}$ of the pie left. Which fraction is equivalent to $\frac{2}{8}$?

A. $\frac{3}{4}$ B. $\frac{1}{2}$

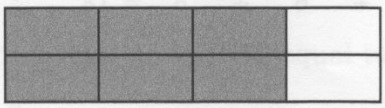
C. $\frac{2}{4}$ D. $\frac{1}{4}$

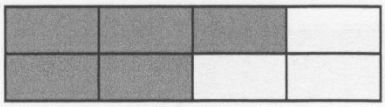
1. D $\frac{2 \div 2}{8 \div 2} = \frac{1}{4}$

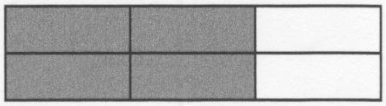
Practice

Read each question. Select the correct answer.

1 Which model shows an equivalent fraction for $\frac{3}{6}$?

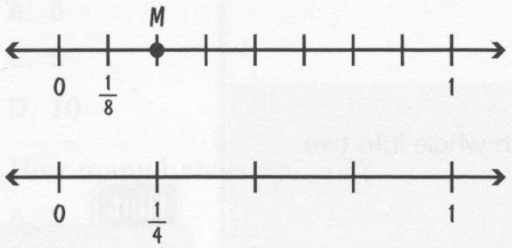
A. 

B. 

C. 

D. 

2 Which fraction names Point M and is equivalent to $\frac{1}{4}$?



A. $\frac{1}{8}$ B. $\frac{2}{8}$

C. $\frac{3}{8}$ D. $\frac{3}{4}$

3 Continue the pattern. What is the next equivalent fraction?

$\frac{1}{3}, \frac{3}{9}, \square$

A. $\frac{4}{10}$ B. $\frac{6}{12}$

C. $\frac{5}{20}$ D. $\frac{9}{27}$

4 Continue the pattern. What is the next equivalent fraction?

$\frac{12}{16}, \frac{6}{8}, \square$

A. $\frac{3}{4}$ B. $\frac{2}{3}$

C. $\frac{5}{8}$ D. $\frac{2}{4}$

5 What is an equivalent fraction for $\frac{2}{2}$?

A. $\frac{3}{2}$ B. $\frac{6}{6}$

C. $\frac{5}{6}$ D. $\frac{2}{3}$

6 Jared gathered $\frac{1}{4}$ of the nails that spilled on the basement floor. What is an equivalent fraction for $\frac{1}{4}$?

A. $\frac{4}{4}$ B. $\frac{1}{3}$

C. $\frac{2}{8}$ D. $\frac{1}{6}$

Math-E - Lesson 27 – Equivalent Fractions

Lesson 27 Generate Equivalent Fractions

(3.NF.3.b)

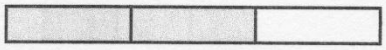
1. D. An equivalent fraction for $\frac{3}{6}$ is $\frac{1}{2}$. Each fraction occupies the same amount in the fraction models.
2. B. The equivalent fraction on the first number line for Point M is $\frac{2}{8}$.
3. D. The next equivalent fraction in the pattern is $\frac{9}{27}$. $\frac{3 \times 3}{9 \times 3} = \frac{9}{27}$
4. A. The next equivalent fraction in the pattern is $\frac{3}{4}$. $\frac{6 \div 2}{8 \div 2} = \frac{3}{4}$
5. B. An equivalent fraction for $\frac{2}{2}$ is $\frac{6}{6}$. Each fraction represents one whole.
6. C. The equivalent fraction for $\frac{1}{4}$ is $\frac{2}{8}$.

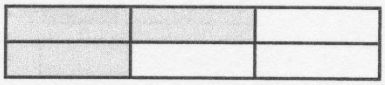
Math-E - Lesson 27 – Equivalent Fractions

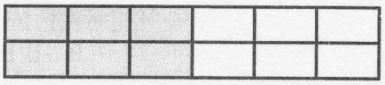
Practice 27 Generate Equivalent Fractions

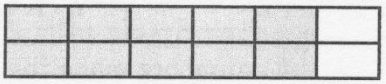
3.NF.3.b – High

1 Which model shows an equivalent fraction for $\frac{4}{6}$?

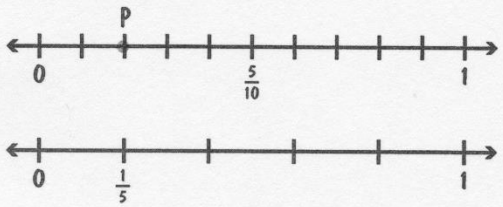
A. 

B. 

C. 

D. 

2 Which fraction names point P and is equivalent to $\frac{1}{5}$?



A. $\frac{1}{20}$ B. $\frac{1}{10}$

C. $\frac{2}{10}$ D. $\frac{2}{5}$

3 Continue the pattern. What is the next equivalent fraction?

$\frac{1}{2}, \frac{4}{8}, \square$

A. $\frac{4}{10}$ B. $\frac{8}{12}$

C. $\frac{10}{16}$ D. $\frac{16}{32}$

4 Continue the pattern. What is the next equivalent fraction?

$\frac{27}{81}, \frac{9}{27}, \square$

A. $\frac{1}{4}$ B. $\frac{3}{9}$

C. $\frac{4}{7}$ D. $\frac{7}{21}$

5 Which three fractions are equivalent to $\frac{1}{5}$?

A. $\frac{2}{10}$

B. $\frac{2}{6}$

C. $\frac{3}{10}$

D. $\frac{3}{15}$

E. $\frac{4}{20}$

F. $\frac{4}{25}$

6 Brayden's hair is cut to $\frac{3}{8}$ inch. What is an equivalent fraction for $\frac{3}{8}$?

A. $\frac{1}{4}$ B. $\frac{4}{12}$

C. $\frac{6}{16}$ D. $\frac{9}{16}$

7 Olivia's electric car has $\frac{4}{5}$ of its battery life remaining. Which fraction shows the car's remaining battery life?

A. $\frac{8}{15}$ B. $\frac{12}{15}$

C. $\frac{10}{12}$ D. $\frac{9}{10}$

8 Tabari has $\frac{1}{6}$ of his mortgage paid off. What is an equivalent fraction for $\frac{1}{6}$?

A. $\frac{2}{12}$ B. $\frac{3}{16}$

C. $\frac{4}{22}$ D. $\frac{6}{30}$

9 Chowa has $\frac{3}{16}$ cup of cooking oil. What is an equivalent fraction for $\frac{3}{16}$?

A. $\frac{3}{32}$ B. $\frac{6}{32}$

C. $\frac{4}{18}$ D. $\frac{6}{18}$

Math-E - Lesson 27 – Equivalent Fractions

10 Jevonte completes $\frac{5}{7}$ of his task list for the weekend. What is an equivalent fraction for $\frac{5}{7}$?

A. $\frac{6}{8}$ B. $\frac{8}{10}$

C. $\frac{10}{21}$ D. $\frac{15}{21}$

11 Lily gets an interview for $\frac{4}{8}$ of the jobs for which she applies. What is an equivalent fraction for $\frac{4}{8}$?

A. $\frac{14}{16}$ B. $\frac{10}{16}$

C. $\frac{2}{4}$ D. $\frac{4}{3}$

12 Nanook rides a bus $\frac{5}{6}$ of the distance to work. Which three fractions are equivalent to $\frac{5}{6}$?

A. $\frac{6}{7}$

B. $\frac{10}{12}$

C. $\frac{12}{14}$

D. $\frac{13}{16}$

E. $\frac{15}{18}$

F. $\frac{20}{24}$

13 Tariana sells products online, and $\frac{1}{9}$ of the products are returned. What fraction of the products are returned?

A. $\frac{2}{16}$ B. $\frac{3}{18}$

C. $\frac{3}{27}$ D. $\frac{4}{25}$

14 Tahoe receives a reply to an email from $\frac{24}{33}$ of his employees. What is an equivalent fraction for $\frac{24}{33}$?

A. $\frac{2}{3}$ B. $\frac{4}{6}$

C. $\frac{6}{9}$ D. $\frac{8}{11}$

15 Ling's dog eats $\frac{1}{3}$ of the food in its bowl. What is an equivalent fraction for $\frac{1}{3}$?

A. $\frac{2}{4}$ B. $\frac{3}{7}$

C. $\frac{4}{12}$ D. $\frac{5}{14}$

16 Ismael uses a $\frac{5}{8}$-inch wrench to construct a playground. What is an equivalent fraction for $\frac{5}{8}$?

A. $\frac{10}{16}$ B. $\frac{10}{24}$

C. $\frac{15}{32}$ D. $\frac{15}{40}$

17 In one day, $\frac{16}{36}$ of Mandi's sales calls are answered. What is an equivalent fraction for $\frac{16}{36}$?

A. $\frac{1}{2}$ B. $\frac{4}{9}$

C. $\frac{6}{18}$ D. $\frac{8}{24}$

18 Jaylen devotes $\frac{1}{8}$ of his free time to practicing guitar. What is an equivalent fraction for $\frac{1}{8}$?

A. $\frac{3}{16}$ B. $\frac{8}{16}$

C. $\frac{3}{24}$ D. $\frac{4}{24}$

19 Capria's team wins $\frac{4}{6}$ of the games they play in a basketball tournament. How many games does Capria's team win?

A. $\frac{2}{3}$ of the games

B. $\frac{3}{4}$ of the games

C. $\frac{7}{8}$ of the games

D. $\frac{10}{12}$ of the games

20 What is an equivalent fraction for $\frac{3}{7}$?

A. $\frac{6}{14}$ B. $\frac{4}{8}$

C. $\frac{9}{14}$ D. $\frac{18}{21}$

Math-E - Lesson 27 – Equivalent Fractions

Practice 27 Generate Equivalent Fractions

pp. 60–61 (3.NF.3.b)

1. A. An equivalent fraction for $\frac{4}{6}$ is $\frac{2}{3}$.
2. C. The equivalent fraction on the first number line for point P is $\frac{2}{10}$.
3. D. The pattern is to multiply the numerator and denominator by 4. The next equivalent fraction in the pattern is $\frac{16}{32}$: $\frac{(4\times4)}{(8\times4)} = \frac{16}{32}$.
4. B. The pattern is to divide the numerator and denominator by 3. The next equivalent fraction in the pattern is $\frac{3}{9}$: $\frac{(9\div3)}{(27\div3)} = \frac{3}{9}$.
5. A, D, E. The equivalent fractions for $\frac{1}{5}$ are $\frac{2}{10}$, $\frac{3}{15}$, and $\frac{4}{20}$.
6. C. The equivalent fraction for $\frac{3}{8}$ is $\frac{6}{16}$.
7. B. The equivalent fraction for $\frac{4}{5}$ is $\frac{12}{15}$.
8. A. The equivalent fraction for $\frac{1}{6}$ is $\frac{2}{12}$.
9. B. The equivalent fraction for $\frac{3}{16}$ is $\frac{6}{32}$.
10. D. The equivalent fraction for $\frac{5}{7}$ is $\frac{15}{21}$.
11. C. The equivalent fraction for $\frac{4}{8}$ is $\frac{2}{4}$.
12. B, E, F. The equivalent fractions for $\frac{5}{6}$ are $\frac{10}{12}$, $\frac{15}{18}$, and $\frac{20}{24}$.
13. C. The equivalent fraction for $\frac{1}{9}$ is $\frac{3}{27}$.
14. D. The equivalent fraction for $\frac{24}{33}$ is $\frac{8}{11}$.
15. C. The equivalent fraction for $\frac{1}{3}$ is $\frac{4}{12}$.
16. A. The equivalent fraction for $\frac{5}{8}$ is $\frac{10}{16}$.
17. B. The equivalent fraction for $\frac{16}{36}$ is $\frac{4}{9}$.
18. C. The equivalent fraction for $\frac{1}{8}$ is $\frac{3}{24}$.
19. A. The equivalent fraction for $\frac{4}{6}$ is $\frac{2}{3}$.
20. A. The equivalent fraction for $\frac{3}{7}$ is $\frac{6}{14}$.