










$$
\frac{1}{4}
$$





## Which two are most alike?



## Which two are most alike?



## Which two are most alike?



## What is the same? What's different?



## What is the same? What's different?



## What is the same? What's different?



## What is the same? What's different?



## What is the same? What's different?



## Which two are most alike?



## Which two are most alike?



## What is the same? What's different?



## What is the same? What's different?



0000000000


 0000000000 0000000000 000000000 000000000 \begin{tabular}{|l|l|l|}
\hline 00000 \& 00000 <br>
\hline \hline

 

\hline 0000000000 <br>
\hline 00000000 <br>
\hline
\end{tabular}



$$
\begin{aligned}
& 0000000000 \\
& 0000000000 \\
& 0000000000 \\
& 0000000000 \\
& 000000000 \\
& 00000.0000 \\
& 0000000000 \\
& 000000000
\end{aligned}
$$

000000000

0000

0000 0000

00000 0000

0000

## Which two are most alike?

$$
\begin{aligned}
& 60 \div 3 \\
& 6 \div 0.3 \\
& 0.6 \div 3
\end{aligned}
$$

## Which two are most alike?

$$
\frac{6}{5} \div 3 \quad 600 \div 300 \quad \frac{6}{5} \div \frac{3}{5}
$$

# Which two are most alike? 

$$
\begin{aligned}
(-6) & \div(-3) \\
6 x & \div 3 x \\
(-6) & \div(+3)
\end{aligned}
$$

What is the same? What's different?


## What is the same? What's different?



5

## What is the same? What's different?


$0.6 \div 0.3$

## What is the same? What's different?



What is the same? What's different?


What is the same? What's different?


## What is the same? What's different?



## What is the same? What's different?



$$
5 \sqrt{2}-\sqrt{8}
$$

## What is the same? What's different?


$5(x+1)-2(x+1)$

What is the same? What's different?

## 5005-2002

$5(x+1)-2(x+1)$

## What is the same? What's different?



## What is the same? What's different?



## Which two are most alike?




## What is the same? What's different?

$$
\left(2 x^{2}+3 x+1\right)+\left(x^{2}+4 x+5\right)
$$

$$
231+145
$$

## What is the same? What's different?



What is the same? What's different?



## What is the same? What's different?




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What is the same? What's different?



## What is the same? What's different?



## What is the same? What's different?



What is the same? What's different?

$(2 x+3)(x+4)$

## What is the same? What's different?



## What is the same? What's different?




## What is the same? What's different?







## What is the same? What's different?



## What is the same? What's different?



## Which two are most alike?



What is the same? What's different?


## What is the same? What's different?

## $x^{2}+5 x+6 x^{2}+5 x-6$

$$
x^{2}-5 x+6 \quad x^{2}-5 x-6
$$

## $x^{2}+10 x+24 x^{2}+10 x-24$

$x^{2}-10 x+24 x^{2}-10 x-24$




## Which two are most alike?

$20,14,8,2, \ldots$
$3,7,11,15, \ldots$
$4,8,16,32, \ldots$


$$
y=\frac{1}{(x-1)(x+1)}
$$

$$
y=\frac{1}{x^{2}+1}
$$

$$
y=\frac{1}{(x-1)^{2}}
$$

$$
y=-\frac{1}{x^{2}-1}
$$

$$
y=2(x-1)^{2}+3
$$

$$
y=\frac{1}{2}(x-3)^{2}-5
$$

$$
y=3(x+2)^{2}-4
$$

$$
y=-\frac{3}{2}(x-4)^{2}+6
$$

$$
f(x)=2(x-1)^{2}+3 \quad f(x)=\frac{1}{2}(x-3)^{2}-5
$$

$$
f(x)=3(x+2)^{2}-4 \quad f(x)=-\frac{3}{2}(x-4)^{2}+6
$$

## What is the same? What's different?



## What is the same? What's different?



## What is the same? What's different?



## What is the same? What's different?



## What is the same? What's different?

$$
\xrightarrow[4]{4}
$$

## What is the same? What's different?



## What is the same?

## $\bullet$

## $\bullet \bullet$

What's different?

## What is the same?



What's different?

## What is the same?



What's different?

## What is the same?

## 88



What's different?

## What is the same? What's different?



## What is the same? What's different?

## What is the same? What's different?



## What is the same? What's different?



## Which two are most alike?



## What is the same? What's different?

## What is the same? What's different?

## What is the same? What's different?



## What is the same? What's different?



## What is the same? What's different?



## What is the same? What's different?




$$
\begin{array}{l|l}
x+9=15 & 4 x-7=17
\end{array}
$$

$$
3 x+1=16
$$

$$
11=\frac{x}{2}+8
$$

## Which two are most alike?



Polypad by Mathigon

## What is the same? What's different?



# Which two are most alike? 

$$
\begin{gathered}
x+4=6 \\
3(x+4)=18 \\
3 x+12=18
\end{gathered}
$$



$$
y=100(2)^{\frac{x}{3}}
$$

$$
y=50(4)^{\frac{x}{3}}
$$

$$
y=400\left(\frac{1}{2}\right)^{\frac{x}{3}}
$$

$$
y=100(3)^{\frac{x}{2}}
$$

## Which two are most alike?

$$
f(x)=50(4)^{\frac{x}{3}}
$$

$$
g(x)=400\left(\frac{1}{2}\right)^{\frac{x}{3}}
$$

$$
h(x)=100(3)^{\frac{x}{2}}
$$

## Which two are most alike?

## What is the same? What's different?



## What is the same? What's different?







## Which two are most alike?

00
00
$\begin{array}{lll}00 & 00 \\ 00 & 00\end{array}$

0<br>00<br>0<br>0000<br>000

00
00
00
00
00
00
0000
0000

## Which two are most alike?



## 00 <br> 00 <br> $\begin{array}{ll}00 \\ 00 & 00\end{array}$



## What is the same? What's different?



## What is the same? What's different?



## What is the same? What's different?



## What is the same? What's different?

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |


| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |




## Which one doesn't belong?



## Any



## Which one doesn't belong?



## Which one doesn't belong?



## What is the same?



What's different?

## What is the same?



What's different?

## What is the same? What's different?



## What is the same? What's different?



## What is the same? What's different?

## What is the same? What's different?




What is the same? What's different?


## What is the same? What's different?



$$
-1.4-1.3-1.2-1.1-1.0-0.9-0.8-0.7-0.6-0.5-0.4-0.3-0.2-0.10 .0+0.1+0.2
$$



The Beatles / 1967-1970








## What is the same? What's different?



## What is the same? What's different?



## What is the same? What's different?



## What is the same? What's different?




## What is the same? What's different?



## What is the same? What's different?



| $x$ | $y$ |
| :---: | :---: |
| -4 | -2 |
| -2 | -1 |
| 0 | 0 |
| 2 | 1 |
| 4 | 2 |


| $x$ | $y$ |
| :---: | :---: |
| -2 | 4 |
| -1 | 1 |
| 0 | 0 |
| 1 | 1 |
| 2 | 4 |


| $x$ | $y$ |
| :---: | :---: |
| -1 | 0 |
| 0 | 1 |
| 0 | -1 |
| 1 | 2 |
| 1 | -2 |


| $x$ | $y$ |
| :---: | :---: |
| -2 | 4 |
| -1 | 2 |
| 0 | 0 |
| 1 | -2 |
| 2 | -4 |







## What is the same? What's different?



What is the same? What's different?


## What is the same? What's different?

| $\times$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 2 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 |
| 4 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| 6 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 |
| 7 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 |
| 8 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 |
| 9 | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 |
| 10 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |


| $\times$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 2 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 |
| 4 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| 6 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 |
| 7 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 |
| 8 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 |
| 9 | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 |
| 10 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |

## What is the same? What's different?

| $\times$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 2 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 |
| 4 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| 6 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 |
| 7 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 |
| 8 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 |
| 9 | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 |
| 10 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |


| $\times$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 2 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 |
| 4 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| 6 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 |
| 7 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 |
| 8 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 |
| 9 | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 |
| 10 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |

## What is the same? What's different?

| $\times$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 2 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 |
| 4 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| 6 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 |
| 7 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 |
| 8 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 |
| 9 | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 |
| 10 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |


| $\times \times$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 2 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 |
| 4 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| 6 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 |
| 7 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 |
| 8 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 |
| 9 | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 |
| 10 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |

## What is the same? What's different?

| $\times$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 2 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 |
| 4 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| 6 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 |
| 7 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 |
| 8 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 |
| 9 | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 |
| 10 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |


| $\times$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 2 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 |
| 4 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| 6 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 |
| 7 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 |
| 8 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 |
| 9 | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 |
| 10 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |

## What is the same? What's different?



## What is the same? What's different?



What is the same? What's different?

What is the same? What's different?


What is the same? What's different?


## What is the same? What's different?



## What is the same? What's different?


$(x+3)(x+4)$

LETITBE



## TVLKINGHETDS



$0.83$





What is the same? What's different?

$$
3.6+2.5
$$



What is the same? What's different?

$$
3.6+2.5
$$



## Which two are most alike?

$$
\begin{aligned}
& 3.6+2.5 \\
& 3 \frac{3}{5}+2 \frac{1}{2} \\
& \frac{36}{7}+\frac{25}{7}
\end{aligned}
$$








## What is the same? What's different?



## What is the same? What's different?



## What is the same? What's different?

## What is the same? What's different?



