1. Extemporale aus der Mathematik am 14.10.2014  
Klasse 8a Gruppe A Name: ………………………………………….

1. Kläre ab, welche Tabelle Werte zu einer direkten Proportionalität enthalten:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | ja | nein | |  |  | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 0 | 3 | 5 | 6 | 7 | 12 | |  | 4,5 |  | 9 | 10,5 | 20 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | ja | nein | |  |  | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | -2,68 | -1,34 | 2,68 |  | 16,08 | 21,44 | |  | -1,25 | 1,25 | 2,5 | 7,5 | 10 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | ja | nein | |  |  | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 0 | 0,5 | 1,0 | 1,5 |  | 2,5 | | 0,5 | 1,0 | 1,5 |  | 2,5 |  | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | ja | nein | |  |  | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | -5 | -3 | 2 | 7 | 10 | 19 | |  | -4,5 |  | 10,5 | 15 |  | |

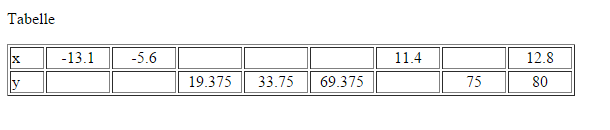
2. Bestimme jeweils die Proportionalitätskonstante k in der angegebenen Einheit

a: Jeden Abend sammelt die Oma die Schnecken im Garten. Am Mittwoch abend sammelt sie 120 Schnecken in 1,5 h.   
 ges: k in k = ……………………………………………………………………………………..

b: 1 Maler arbeitet einen Raum mit 63 m2 in 4,5 Stunden ab.   
 ges: k in bezogen auf 1 Maler k = ……………………………………………………………………………………..

c: 8 Hühner legen 56 Eier in 4 Stunden.   
 ges: k in bezogen auf 1 Huhn k = ……………………………………………………………………………………..

3.

  
 Ergänze die fehlenden Werte, fertige ein passendes Diagramm an und beantworte folgende Fragen rechnerisch und bestätige grafisch:

Welcher y-Wert gehört zu x = 5?

Welcher x – Wert gehört zu y = 50?

1. Extemporale aus der Mathematik am 14.10.2014  
Klasse 8a Gruppe B Name: ………………………………………….

1. Kläre ab, welche Tabelle Werte zu einer direkten Proportionalität enthalten:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | ja | nein | |  |  | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 0 | 3 | 5 | 6 | 7 | 12 | |  |  | 7,5 | 9 |  | 20 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | ja | nein | |  |  | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | -2,68 | -1,34 | 2,68 |  | 4,02 | 20,10 | |  | -1,40 | 1,40 | 0,70 | 2,1 | 10,5 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | ja | nein | |  |  | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | -4 | -2 | 2 | 4 | 10 | 19 | |  | -4,5 |  | 9 | 22,5 |  | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | ja | nein | |  |  | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 0 | -0,5 | -1,0 | -1,5 |  | -2,5 | | 0,5 | 1,0 | 1,5 |  | 2,5 |  | |

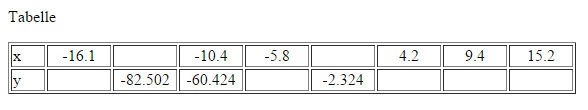
2. Bestimme jeweils die Proportionalitätskonstante k in der angegebenen Einheit

a: Jeden Abend sammelt die Oma die Schnecken im Garten. Am Mittwoch abend sammelt sie 40 Schnecken in 0,5 h.   
 ges: k in k = ……………………………………………………………………………………..

b: 1 Maler arbeitet einen Raum mit 60 m2 in 2,4 Stunden ab.   
 ges: k in bezogen auf 1 Maler k = ……………………………………………………………………………………..

c: 5 Hühner legen 70 Eier in 4 Stunden.   
 ges: k in bezogen auf 1 Huhn k = ……………………………………………………………………………………..

3.

  
 Ergänze die fehlenden Werte, fertige ein passendes Diagramm an und beantworte folgende Fragen rechnerisch und bestätige grafisch:

Welcher y-Wert gehört zu x = 10?

Welcher x – Wert gehört zu y = 30?

1. Extemporale aus der Mathematik am 14.10.2014  
Klasse 8a Gruppe A Name: Lösung

1. Kläre ab, welche Tabelle Werte zu einer direkten Proportionalität enthalten:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | ja | nein | |  | X | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 0 | 3 | 5 | 6 | 7 | 12 | |  | 4,5 |  | 9 | 10,5 | 20 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | ja | nein | |  | X | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | -2,68 | -1,34 | 2,68 |  | 16,08 | 21,44 | |  | -1,25 | 1,25 | 2,5 | 7,5 | 10 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | ja | nein | |  | X | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 0 | 0,5 | 1,0 | 1,5 |  | 2,5 | | 0,5 | 1,0 | 1,5 |  | 2,5 |  | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | ja | nein | | X |  | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | -5 | -3 | 2 | 7 | 10 | 19 | |  | -4,5 |  | 10,5 | 15 |  | |

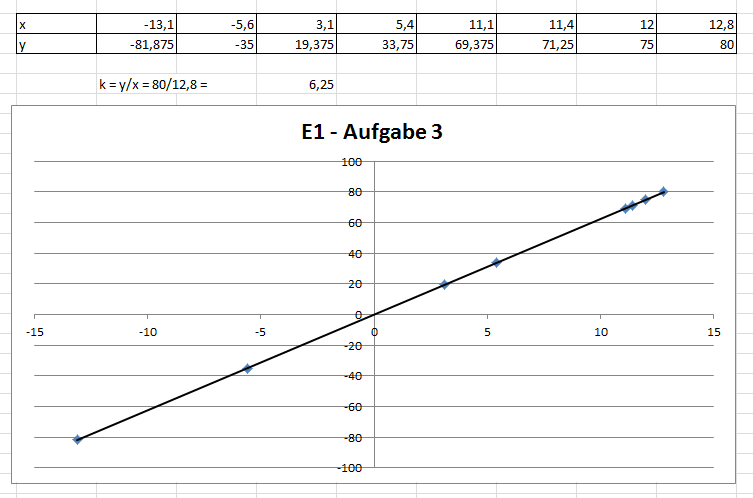
2. Bestimme jeweils die Proportionalitätskonstante k in der angegebenen Einheit

a: Jeden Abend sammelt die Oma die Schnecken im Garten. Am Mittwoch abend sammelt sie 120 Schnecken in 1,5 h.   
 ges: k in k =

b: 1 Maler arbeitet einen Raum mit 63 m2 in 4,5 Stunden ab.   
 ges: k in bezogen auf 1 Maler k =

c: 8 Hühner legen 56 Eier in 4 Stunden.   
 ges: k in bezogen auf 1 Huhn k =

3.



Ergänze die fehlenden Werte, fertige ein passendes Diagramm an und beantworte folgende Fragen rechnerisch und bestätige grafisch:

Welcher y-Wert gehört zu x = 5? y = 6,25 \* 5 = 31,25 grafisch: y = 30

Welcher x – Wert gehört zu y = 50? x = grafisch: x = 7,8

1. Extemporale aus der Mathematik am 14.10.2014  
Klasse 8a Gruppe B Name: Lösung

1. Kläre ab, welche Tabelle Werte zu einer direkten Proportionalität enthalten:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | ja | nein | |  | x | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 0 | 3 | 5 | 6 | 7 | 12 | |  |  | 7,5 | 9 |  | 20 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | ja | nein | |  | x | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | -2,68 | -1,34 | 2,68 |  | 4,02 | 20,10 | |  | -1,40 | 1,40 | 0,70 | 2,1 | 10,5 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | ja | nein | | x |  | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | -4 | -2 | 2 | 4 | 10 | 19 | |  | -4,5 |  | 9 | 22,5 |  | |

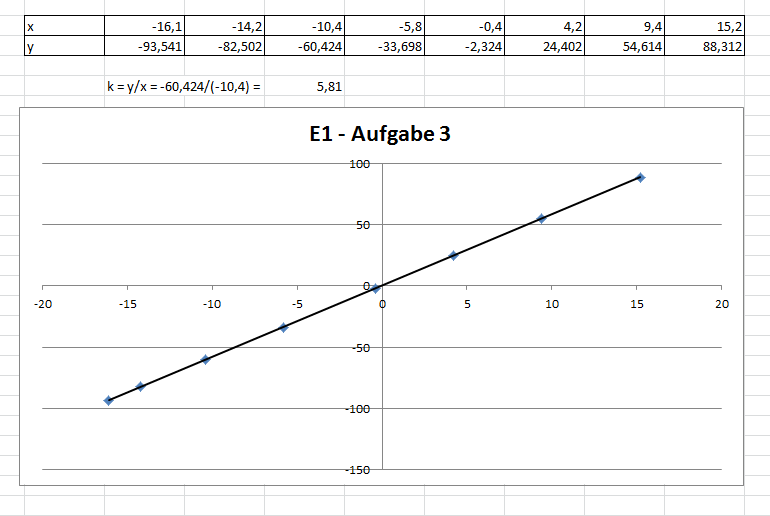
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | ja | nein | |  | x | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 0 | -0,5 | -1,0 | -1,5 |  | -2,5 | | 0,5 | 1,0 | 1,5 |  | 2,5 |  | |

2. Bestimme jeweils die Proportionalitätskonstante k in der angegebenen Einheit

a: Jeden Abend sammelt die Oma die Schnecken im Garten. Am Mittwoch abend sammelt sie 40 Schnecken in 0,5 h.   
 ges: k in k =

b: 1 Maler arbeitet einen Raum mit 60 m2 in 2,4 Stunden ab.   
 ges: k in bezogen auf 1 Maler k =

c: 5 Hühner legen 70 Eier in 4 Stunden.   
 ges: k in bezogen auf 1 Huhn k =

3. 

Ergänze die fehlenden Werte, fertige ein passendes Diagramm an und beantworte folgende Fragen rechnerisch und bestätige grafisch:

Welcher y-Wert gehört zu x = 10? y = k\*x = 5,81 \* 10 = 58,1 grafisch: y = 58

Welcher x – Wert gehört zu y = 30? 5,16 grafisch: x = 5,2